Drug & Cosmetic INDUSTRY

DECEMBER, 1949

FEATURE ARTICLES • •

NEW VIEWS ON VITAMIN A PART I	Milton A. Lesser	634
DEVELOPMENT OF NEW PRODUCTS	William Burdell Baker	637
LEMONGRASS OIL		640
HAIR PREPARATIONS	Harry Hilfer	642
PATENTS ON DOOM	Erwin Di Cyan	644
DEVELOPMENT OF FLAVORS	David E. Lakritz	646
25 YEARS OF GIVAUDAN-DELAWANNA		648

DEPARTMENTS • •

KEEPING POSTED	Thomas R. Farrell	629
PACKAGING AND SELLING	Frazer V. Sinclair	651
NEWS	Frank Child III	664
PRODUCTION FORUM	Francis Chilson	675
PATENT THOUGHTS AND TRENDS	Thomas Cifelli, Jr.	688
INDUSTRY'S BOOKS	Harry G. Kelby	691
YOUR TRADE-MARK RECORD	John H. Graham	692
COMPOUNDER'S CORNER	Milton A. Lesser	696
ADVANCING THERAPY	Milton A. Lesser	700
READERS' QUESTIONS	Milton A. Lesser	703
PERFUMER'S SHELF	Milton A. Lesser	704
ABREAST OF THE MARKETS	Frank Child III	707

THOMAS R. FARRELL, Editor
ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
HILDA C. McCOLLOM, Art Director

The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer, Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York 1, N. Y., U. S. A.

Business Manager, Frazer V. Sinclair; Advertising Representatives, P. W. Alexander, Walter M. Brauneiss, C. R. Keeley, Dwight H. Early, 100 No. LaSalle St., Chicago 2; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Subscription price—$3.00 a year, in advance, Foreign Countries, $5.00. Single copies, 35c; Back issues, 50c. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulations.

Contents Copyrighted 1949 by Drug Markets, Inc.

Drug & Cosmetic INDUSTRY

DECEMBER, 1949

FEATURE ARTICLES • •

NEW VIEWS ON VITAMIN A PART I	Milton A. Lesser	634
DEVELOPMENT OF NEW PRODUCTS	William Burdell Baker	637
LEMONGRASS OIL		640
HAIR PREPARATIONS	Harry Hilfer	642
PATENTS ON DOOM	Erwin Di Cyan	644
DEVELOPMENT OF FLAVORS	David E. Lakritz	646
25 YEARS OF GIVAUDAN-DELAWANNA		648

DEPARTMENTS • •

KEEPING POSTED	Thomas R. Farrell	629
PACKAGING AND SELLING	Frazer V. Sinclair	651
NEWS	Frank Child III	664
PRODUCTION FORUM	Francis Chilson	675
PATENT THOUGHTS AND TRENDS	Thomas Cifelli, Jr.	688
INDUSTRY'S BOOKS	Harry G. Kelby	691
YOUR TRADE-MARK RECORD	John H. Graham	692
COMPOUNDER'S CORNER	Milton A. Lesser	696
ADVANCING THERAPY	Milton A. Lesser	700
READERS' QUESTIONS	Milton A. Lesser	703
PERFUMER'S SHELF	Milton A. Lesser	704
ABREAST OF THE MARKETS	Frank Child III	707

THOMAS R. FARRELL, Editor
ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Consultant
MILTON A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
FRANK CHILD III, News Editor
HILDA C. McCOLLOM, Art Director

The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer, Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York 1, N. Y., U. S. A.

Business Manager, Frazer V. Sinclair; Advertising Representatives, P. W. Alexander, Walter M. Brauneiss, C. R. Keeley, Dwight H. Early, 100 No. LaSalle St., Chicago 2; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

Subscription price—$3.00 a year, in advance, Foreign Countries, $5.00. Single copies, 35c; Back issues, 50c. Entered as Second Class Matter, January 1, 1928, at the Post Office at Pittsfield, Mass., under the Act of March 3, 1879. Member of Audit Bureau of Circulations.

Contents Copyrighted 1949 by Drug Markets, Inc.

Quality begets quality

INSURE CUSTOMER SATISFACTION WITH YOUR FINISHED PRODUCTS BY USING UNIFORMLY HIGH QUALITY INGREDIENTS

U. S. P. WHITE OILS

Standard's U. S. P. White Oils are absolutely pure and unvarying in quality.

They meet or exceed the requirements of U. S. Pharmacopoeia XIII—Stanolind Liquid Paraffin Heavy, Merusol White Mineral Oil, Superla White Mineral Oils—Saybolt Universal Viscosities ranging from 85 to 345 seconds at 100° F.

TECHNICAL WHITE OILS

Superla White Rose Oil
Extra White Rose Oil
Premier White Oil
White Rose Oil
Acme White Oil
Eureka White Oil

Saybolt Universal Viscosities ranging from 50 to 100 seconds at 100° F.

PETROLATUMS

Stanolene (the premium white petrolatum)
Stanolind Petrolatum Snow White
Stanolind Petrolatum Lily White
Stanolind Petrolatum Cream White
Stanolind Petrolatum Golden Topaz
Stanolind Petrolatum Topaz
Stanolind Petrolatum Amber
Stanolind Petrolatum Red Veterinary
Stanolind Petrolatum Dark

STANDARD'S WHITE OILS PETROLATUMS

STANDARD OIL COMPANY (INDIANA)

910 South Michigan Avenue **Chicago 80, Illinois**

Field Rations Now and In 150 B. C.

Compare the pictures shown here. One is the well-known field ration of World War II. The other, about as large as an olive, is a replica of the field ration developed by the Greek army engineer and supply officer, Philon in 150 B.C. and used as late as the sixteenth century.

Dr. Pan S. Codellas of the University of California Medical School is responsible for this research as published in the Bulletin of the History of Medicine, and, according to Dr. Codellas, Philon was no slouch because the ration packed a real nutritional wallop. Philon's ration contained honey for its carbohydrate content, sesame for protein, squill for its tonic effect, and opium to allay hunger pains.

Strange, in the light of our greater pharmacological knowledge, that nearly 2100 years later we are still using these same nutritive and tonic substances, and although neither opium nor its alkaloids can now be lawfully used as a means of allaying hunger pains, the alkaloids are still tops in professional medical practice.

NYQ
REG. U.S. PAT. OFF.
The Full Line Fine Chemical House

The NEW YORK QUININE & CHEMICAL WORKS, Inc.

GENERAL OFFICES: **99-117 NORTH ELEVENTH STREET • BROOKLYN 11, NEW YORK**
CHICAGO PLANT: **729 WEST DIVISION STREET • CHICAGO 10, ILLINOIS**

PERFUME

IS AN OLD INDIAN TRICK

In ancient India, Cupid was an ingenious fellow. Armed with a sugar-cane bow, he put perfume in hearts and the light in lovers' eyes by shooting arrows tipped with fragrant blossoms. Modern cupids put his marksmanship to shame with *enduring* flower fragrances —in perfumes compounded with *alcohol.*

The finest perfumes require the finest alcohol—CSC Rossville Hexagon Cologne Spirits. Hexagon is unsurpassed in quality, clarity, purity, uniformity, and freedom from foreign odor.

The fine CSC Rossville Alcohols satisfy the exacting needs of the cosmetic, pharmaceutical, and industrial fields.

Rossville Hexagon* Cologne Spirits
Rossville Algrain* Alcohol U. S. P.
Rossville Gold Shield* Alcohol U. S. P.
Rossville Alcohol (Specially Denatured)
Rossville Anhydrous Alcohol
*Reg. U. S. Pat. Off.

Commercial Solvents Corporation

17 EAST 42ND STREET, NEW YORK 17, N. Y.

VAN AMERINGEN

Announcing the removal of

HAEBLER, INC.

manufacturers and creators of the finest in perfume materials

New Address:

521 WEST 57TH STREET
NEW YORK 19, NEW YORK

New Telephone:

CIRCLE 6-2700

HENRI ROBERT

world famous perfume artist

heads new de Laire division

of Dodge & Olcott, Inc.

de Laire...time honored name among perfumers brings to America their famous Parisian stylized perfume specialties under the care of a renowned perfumer.

Reared in the Grasse traditions under the tutelage of his father, Joseph Robert... associated for years with famous Parisian perfume houses...experienced in American perfume tastes...HENRI ROBERT heads the new de Laire Division of Dodge & Olcott Inc. With the de Laire Laboratory in Paris and the new de Laire Division Laboratory at his service, M'sieu Robert is prepared to assist the imaginative toilet goods manufacturer in creating captivating fragrances.

PERFUME SPECIALTIES

de Laire

DIVISION OF

DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.

ROWAG

SPECIALLY DEODORIZED TRIPLE A ANHYDROUS LANOLIN U.S.P.

THE FINEST COSMETIC QUALITY LANOLIN AVAILABLE

Vacuum deodorized—crystal clear—exceptionally light in color—smooth, glossy texture—*and* surpasses USP requirements for purity.

For remarkably stable, lustrous and emollient creams and lotions—free from surface yellowing and "after-effect" fatty odor—that can be scented with a minimum of delicate perfume.

Write for samples of this "cream of lanolins."

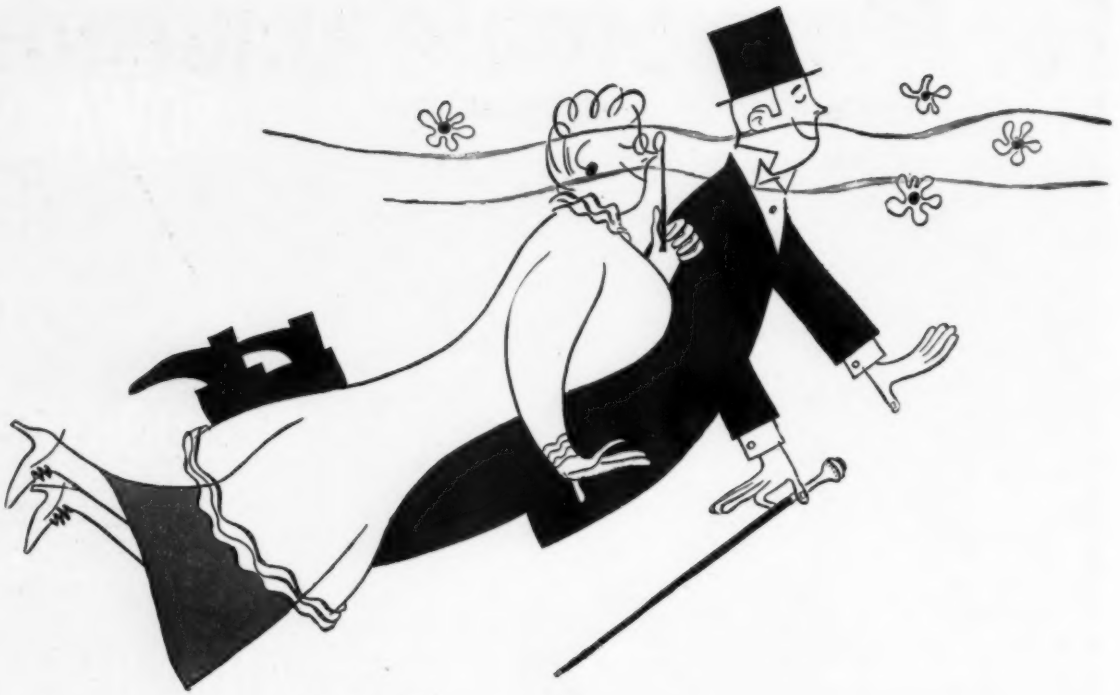
ROWAG

ROBINSON WAGNER CO., INC.

Leaders in Lanolin Research and Development

110 EAST 42nd STREET • NEW YORK 17, N. Y.

Plant: Mamaroneck, N. Y.



the Right Fragrance Attracts the Right People

That's why the selection of the *right* fragrance for a new product is of such great importance to the manufacturer—and to his sales manager.

If you have a troublesome perfuming problem why not consult with our chemists at Naugatuck Aromatics? These men have a wealth of experience in Basic Perfume Materials and Aromatic Chemicals, and they will be glad to work with you.

They can show you how to mask or denature unpleasant odors of raw materials. They can show you how to add an acceptable fragrance—or neutral tone—to your finished product.

Write, or call us—now!

NAUGAROMES—For various industrial and commercial uses
SOAPOLS—For bar, paste and liquid soaps
SHAMPAROMES—For liquid, cream and paste shampoos
MODERN BASES—For fine perfumes, colognes, toilet waters, toilet preparations, etc.
CREAMODORS—For all types of creams and lotions.
MANUFACTURERS OF AROMATIC CHEMICALS—IMPORTERS OF ESSENTIAL OILS

NAUGATUCK AROMATICS

DIVISION OF UNITED STATES RUBBER COMPANY

254 Fourth Avenue, New York 10, N. Y.—701 South La Salle Street, Chicago 5, Ill.

Toronto—Montreal

Sole Distributors for:

BRUNO COURT, S. A., GRASSE, FRANCE

For More Stable Emulsions

Carefully refined and bleached from the world's finest grades of crude beeswax, Beehive Brand Beeswax is chemically tested for purity and quality. It is valuable especially in cosmetic creams, toilet preparations, pomades and ointments where stable emulsions of fine texture and attractive appearance are desirable.

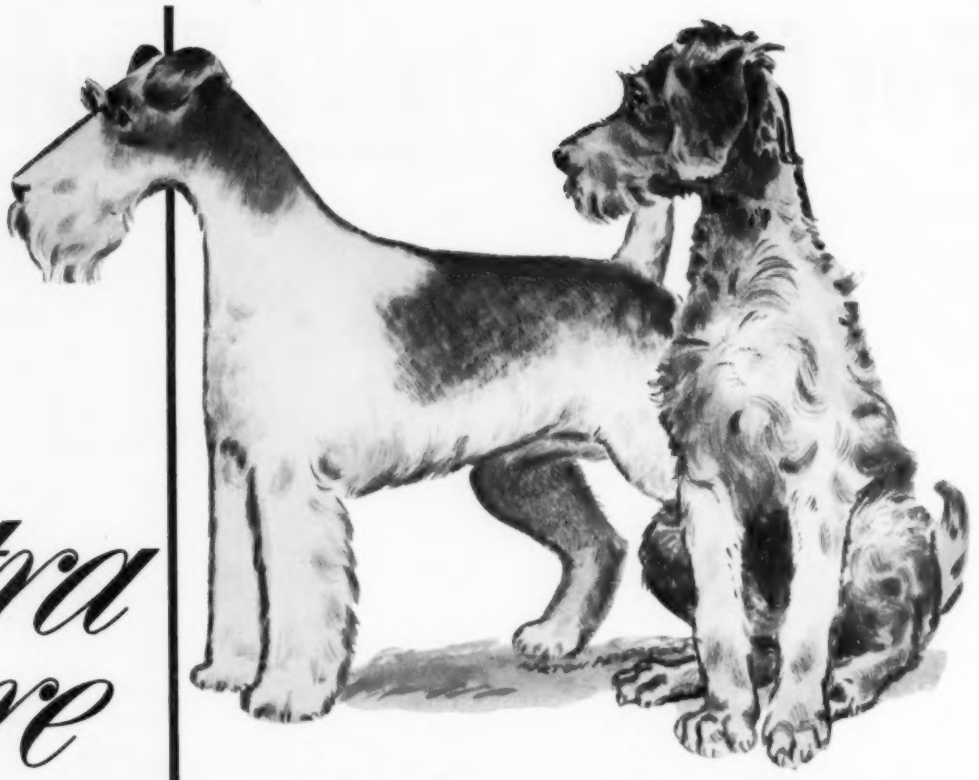
Practical experience proves that Beehive Brand Beeswax is more economical in the long run because it consistently produces emulsions that are stable and reliable under varying conditions of storage. We strongly recommend the use of the pure wax, though we are prepared to fill orders for beeswax compounds or synthetics, adjusted to the requirements of any manufacturer.

Write today for folder giving complete information.

WILL & BAUMER
Candle Co., Inc.

Syracuse, N. Y. Est. 1855

Spermaceti Ceresine Red Oil Yellow Beeswax
Composition Waxes Stearic Acid Hydistear



extra care

MEANS PRIZE WINNING PERFORMANCE

PENN-DRAKE

WHITE OILS

Extra care . . . in refining the best of crude petroleum stocks makes Penn-Drake White Oils perfectly pure, permanently pure.

Dependably uniform Penn-Drake White Oils give prize-winning performances every time, because they are completely free from acids, alkalies and other impurities. With a base by Penn-Drake your products will give prize-winning performances too, because they will not crack or shrink in the jar and are protected from discoloring with age.

Pure Penn-Drake White Oils are odorless, tasteless, colorless and have the *correct* viscosity. With these high quality bases you can build finished products that give rapid liquefication, and fast penetration without being oily.

A complete line of highest quality U.S.P. White Oils ("Drakeols") as well as a complete series of technical grade white oils are offered.

Penn-Drake Specialized Service can provide White Oils that are "slightly different" according to your exact specification. Write for further details or samples.

penn drake products

PENNSYLVANIA REFINING COMPANY

GENERAL OFFICES: BUTLER, PENNSYLVANIA

Refinery at KARNS CITY, PENNSYLVANIA

Branches: Cleveland, Ohio; Edgewater, N. J. ***Representatives in Principal Cities***

MAKERS White Oils (U.S.P. and Technical); Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Deodorized and other Naphthas; Petroleum Sulfonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils, and other petroleum products.

ATLAS

Announces a New Series of

Saturated Fatty Acids of Unusual Chemical Purity

HYSTRENE* S-97 (97% Stearic Acid)

HYSTRENE C-80 (80% Stearic Acid)

HYSTRENE T-70 (70% Stearic Acid)

. . . offering a combination of features never before obtainable commercially!

1. Exceptionally low level of odor, color and taste
2. Unsaponifiable matter as low as 0.1%
3. Iodine value below 0.5%
4. From vegetable or animal sources only

Made possible by a new and unique solvent purification method.

*Trade Mark

ATLAS INDUSTRIAL CHEMICALS DEPARTMENT

CHEMICALS ATLAS EXPLOSIVES

ATLAS POWDER COMPANY, Wilmington, Del. • *Offices in principal cities* • *Cable Address—Atpowco*

In Canada address A. F. Sterne and Sons LIMITED *Brantford, Ontario*

says the professor

HOOK 'EM WITH A BETTER SMELL ON THE END OF YOUR LINE!

Knowingly-scented bait will catch more fish... in more ways than one! For the product that *smells* better *sells* better... whether it be face cream or foot powder... nail polish or vitamin preparations... toothpaste or hair tonic.

No matter what your perfuming problem, you'll find it profitable to consult the technical department of MAGNUS, MABEE & REYNARD, INC. As one of the world's great suppliers of Essential Oils, Flavors and Perfuming materials, MM&R has had more than a half century of specialized experience in creating individualized odor — *or flavor* — personalities for every type of product.

Our facilities are available to you without obligation. Call on MM&R now!

BUILDERS OF PRODUCT PREFERENCE through QUALITY ESSENTIAL OILS, PERFUMING MATERIALS and CONCENTRATED FLAVORS SINCE 1895

MAGNUS, MABEE & REYNARD, INC.

SINCE 1895 ... ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

16 DESBROSSES STREET, NEW YORK 13, N. Y. • 221 NORTH LASALLE STREET, CHICAGO 1, ILL.

LOS ANGELES: BRAUN CORP. • SEATTLE, PORTLAND, SPOKANE: VAN WATERS & ROGERS, INC. • SAN FRANCISCO: BRAUN-KNECHT-HEIMANN CO.

Cut yourself a slice of our experience!

This is our 25th anniversary—which is one way of saying we've had quite a bit of experience in making tubes. For some outstanding customers, as you can see.

It seems to us that where experience counts most in our business is in solving your tube problems so they *stay* solved. For instance, by eliminating "bugs" *before* they occur. By keeping uniformity and reproduction so exact that your millionth tube and your first are identically perfect twins.

Yes, we're proud of our 25 years' experience. Prouder still of making it of practical value *to our customers!*

Sun Tube Corporation

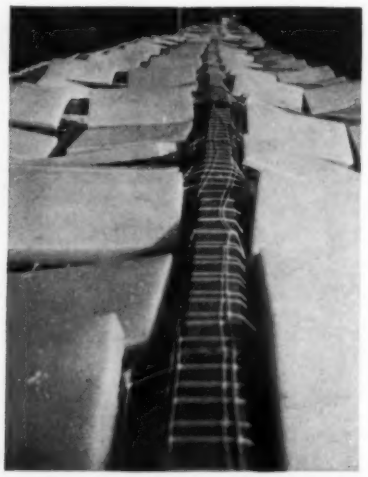
181 Long Avenue, Hillside, New Jersey

Chicago 26, Ill. . . . *James L. Coffield, Jr., 7720 N. Sheridan Rd.*
St. Louis 1, Mo. . . . . . *M. P. Yates, Arcade Building*
Cincinnati 8, Ohio . . . . . *Ralph H. Auch, 3449 Custer Road*
Seattle 4, Wash. . . . . . *King & Anderson, 1016 First Ave. South*
Los Angeles 27, Calif. . . *King & Anderson, 1001 No. Vermont Ave.*
St. Paul 1, Minn. . . . . . *Alexander Seymour, 1411 Pioneer Bldg.*
Dallas 2, Tex. . . . . . *R. P. Anderson Co., 317 Texas Bank Bldg.*
Portland 1, Ore. . . . . . *King & Anderson, Foot S. W. Gibbs St.*
San Francisco 3, Calif. . . . *King & Anderson, Western Merchandise Mart, 1355 Market Street*
Houston 2, Tex. . . . *R. P. Anderson Co., 603 M & M Building*

Snowflake BRAND *White Sun Bleached* BEESWAX U.S.P.

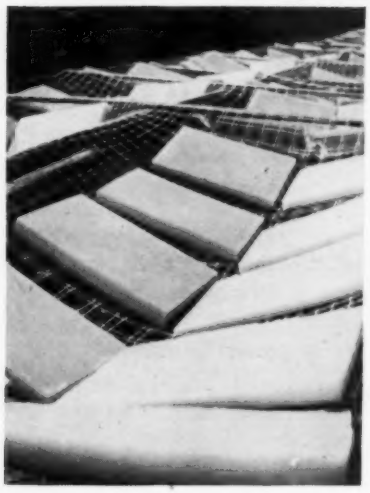
CHOICE OF THE DISCRIMINATING

1 *Flake beeswax on canvas exposed to bleach in sun and air.*



2 *Beeswax slabs on nets exposed to bleach in sun and air.*

3 *Final stages of Beeswax slabs exposed to bleach in sun and air.*



4 *Beeswax Flaking and Ribbon Machine.*

Bleaching Beeswax exposed to sun and air is perhaps the most ancient of all industries.

Serving the Cosmetic and Pharmaceutical Trades for 69 Years

Snowflake Brand White Beeswax U.S.P. is endorsed by the cosmetic, drug and chemical professions for purity and whiteness. Toilet cold cream manufacturers whose requirements are most discriminating emphasize its perfection.
Stocks carried at all branch offices. Write for samples and prices.

E. A. BROMUND CO.

Established 1880

Bleachers and Refiners of **Beeswax • Spermaceti • Ceresine • Yellow Beeswax • Ozokerite Carnauba • Composition Waxes • Stearic Acid**

258 BROADWAY, NEW YORK 7, N. Y.

Representatives: **Frank B. Tracy, 201 N. Wells Bldg., Chicago, Ill.; C. L. Iorns Co., 216 S. Seventh St., St. Louis, Mo.; R. Peltz Co., Drexel Bldg., Philadelphia 6, Pa.; C. J. McAvoy Co., 364 S. Front St., Memphis 3, Tenn.; Hawxhurst & Co., San Francisco and Los Angeles, Calif.; Hukill Chemical Corp., 4614 Prospect Ave., Cleveland 3, Ohio.**

TYROTHRICIN
– Penick

ADAPTABLE TO TOPICAL USE IN SOLUTION, TABLET OR OINTMENT FORM

(THE TOPICAL ANTIBIOTIC OBTAINED FROM THE SOIL BACTERIA—BACILLUS BREVIS.)

TYROTHRICIN as manufactured by S. B. PENICK & COMPANY is a highly purified product meeting well-defined specifications for antibiotic effectiveness and physical characteristics.

IN BULK ONLY, FOR PHARMACEUTICAL MANUFACTURING USE

TYROTHRICIN PENICK is available from large scale production for immediate shipment.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Tyrothricin (S. B. Penick & Company) has been accepted for New and Non-official Remedies in bulk form by the Council on Pharmacy and Chemistry of the American Medical Association.

BASIC PRODUCTS FOR THE PHARMACEUTICAL INDUSTRY

S. B. PENICK & COMPANY

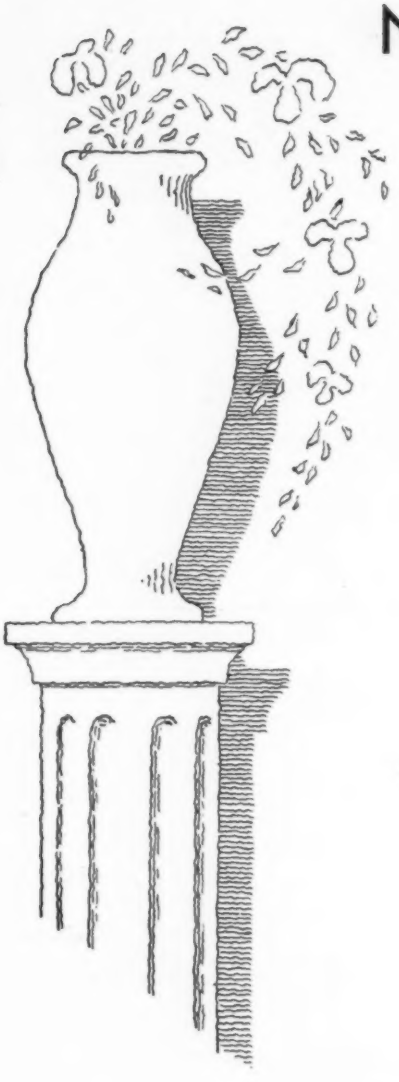
50 CHURCH STREET, NEW YORK 7, N. Y.
Telephone COrtlandt 7-1970

S. B. PENICK & COMPANY • ASHEVILLE • NEW YORK • CHICAGO •

735 WEST DIVISION STREET, CHICAGO 10, ILL.
Telephone MOhawk 4-5651

BOTANICAL DRUGS • MEDICINAL CHEMICALS • ESSENTIAL OILS • AROMATIC CHEMICALS

TOMBAREL PRODUCTS CORPORATION



Natural and Aromatic Materials *for* PERFUMES SOAPS COSMETICS

Sole Distributors
for TOMBAREL FRERES, GRASSE

Absolute Supreme Flower Essence

Surfine Essential Oils

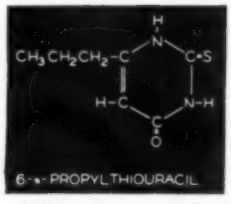
Resinoids

Tombarel

PRODUCTS CORPORATION

12 East 22nd Street • New York 10

PROPYLTHIOURACIL FOR THYROTOXICOSIS



Propylthiouracil (6-n Propylthiouracil) is a notable addition to thyrotoxicosis therapy. Propylthiouracil has proved to be as effective as Thiouracil on far lower dosage levels and it does not exhibit the undesirable side effects of the related compound. In addition, it is well tolerated by patients previously exhibiting sensitivity to Thiouracil. For complete information about Propylthiouracil, write for Calco Technical Bulletin No. 720.

★ *Precise and complete analytical control.*

★ *Technical bulletins available.*

★ *A technical service ready to assist in application problems.*

Represented in Canada by Calco Chemical Division, North American Cyanamid, Limited, P. O. Box 10, St. Lambert, Montreal 23, P. Q. Royal Bank Bldg., Toronto 1, Ontario.

Pacific Coast Stock, Sales and Service Departments maintained at Calco Chemical Division, American Cyanamid Company, 2472 East Eighth Street, Los Angeles 21, Calif.

Calco

CALCO's Bulk Pharmaceuticals*

Sulfadiazine U.S.P.
(powder and micro crystal . . . the Sulfa drug of choice)
Sodium Sulfadiazine U.S.P.
Sulfamerazine U.S.P.
(powder and micro crystal)
Sodium Sulfamerazine U.S.P.
Sulfanilamide U.S.P.
(powder, crystal and micro crystal)
Sulfathiazole U.S.P.
(powder, crystal and micro crystal)
Sodium Sulfathiazole U.S.P.
Sulfapyridine N.F.
Sodium Sulfapyridine
Sulfabenzamide
Sodium Sulfabenzamide
Aminoacetic Acid N.F.
Calcium Pantothenate (Dextro)
Choline Chloride
Choline Dihydrogen Citrate
Cinchophen N.F.
(and Sodium Salt)
Folic Acid
Neocinchophen U.S.P.
Mandelic Acid N.F.
Calcium Mandelate U.S.P.
Menadione U.S.P.
Methylene Blue U.S.P.
(powder and crystal)
Nicotinic Acid U.S.P.
Nicotinamide U.S.P.
Nicotinamide HCl
Para Aminosalicylic Acid
Pyridoxine HCl
Saligenin
Propylthiouracil
Phenothiazine N.F.
(Regular and Drench grades for Veterinary use)
Certified Colors for Pharmaceutical and Cosmetic Use

*In keeping with long-established policy, the above products are offered to ethical Pharmaceutical and Veterinary Manufacturers only.

PHARMACEUTICAL DEPARTMENT · CALCO CHEMICAL DIVISION

AMERICAN Cyanamid COMPANY

BOUND BROOK, N. J.

Books of Importance

Important for every chemist in the drug and cosmetic industry!

SURFACE ACTIVE AGENTS

By Anthony M. SCHWARTZ
Harris Research Laboratories, Washington, D. C.

and James W. PERRY
Massachusetts Institute of Technology

This book summarizes the achievements of the last three decades in developing a host of new surface active agents. The different types of products are reviewed with particular attention to their laboratory synthesis, commercial production, and characteristic properties. Special attention has been directed to the numerous practical applications of surface active agents and to their useful effects—foaming, wetting, detergency, emulsification, spreading.

1949 590 pages 51 illus. 6x9 $10.00

Top Executives Confirm This New Book

PHARMACEUTICAL SELLING "DETAILING" AND SALES TRAINING

by ARTHUR F. PETERSON
Marketing and Management Consultant

Prepared by Arthur Peterson, pharmaceutical marketing consultant, this volume is designed to meet the particular needs of sales executives, professional service representatives and others involved in the network of marketing pharmaceutical and allied products. Its coverage of efficient sales training methods, the finer points of detailing the physician, and other important aspects of merchandising this specialized line reflects the author's years of practical, varied experience and his complete understanding of everyday problems. Representatives, especially, will find it profitable to use. It shows how to win dealer cooperation, prepare sales and detailing presentations, keep all products active, write reports, etc.

374 pages, 6 x 9, 35 illustrations. Price $4.50 postpaid

THE ESSENTIAL OILS

by ERNEST GUENTHER, Ph.D.
Vice President and Technical Director
Fritzsche Brothers, Inc.

This great reference work is based upon wide experience in the field and factory, careful research in the laboratory, and exhaustive search of the original literature covering the production, analysis, chemistry and applications of the essential oils.

Its achievement has been made possible by the collaboration of outstanding chemists, specialists in their several fields, who have worked closely with the editor and chief contributor, Dr. Ernest Guenther, to provide a detailed and world-wide coverage of the sources, production, chemistry and technology of the essential oils.

The result of their cooperation is an all-embracing reference work, containing the latest information on essential oils—from their origin in the plant and the first stages of their recovery to their final processing and utilization.

Vol. I History—Origin in Plants—Production—Analysis
448 pages, illustrated
Cloth, $6 postpaid

Vol. II The Constituents of Essential Oils
852 pages, Cloth
$10 postpaid

PHARMACOPOEIA

of the

United States

Thirteenth Revision

$8.00 postpaid

BOOK DEPARTMENT
DRUG & COSMETIC INDUSTRY, 101 West 31st, New York 1, N. Y.

"This is designed to put a new face on your problem!"

KEEPING POSTED

U.S.P. Revision "Open Hearing"

THE "Open Hearing" on the standards proposed for the new Pharmacopoeia was held last month in Philadelphia. On the day following this innovation in Pharmacopoeia revision, the members of the U. S. P. Committee of Revision, most of whom had attended the two-day Open Hearing, held executive sessions of the Subcommittees. This was followed by reports by the chairman of the Subcommittees constituting the Executive Committee, with final approval of these reports by the General Committee of Revision.

The Open Hearing was divided into sections, several of the unrelated groups meeting at the same time. They covered all U.S.P. monographs, including organic and inorganic chemicals and their preparations, surgical aids, biological assays, vitamin standards and assays, botany and pharmacognosy texts, volatile oils, pharmaceutical preparations such as extracts, fluidextracts, tinctures, syrups, elixirs, medicated waters, solutions, tablets, capsules, ointments, lotions, etc., also reagents and test solutions. The medical members considered doses which had been questioned and other therapeutic problems raised during the revision.

As each group of monographs was reviewed at the Hearing, the changes proposed as the result of recommendations from those reading proof, were announced and opportunity given for further discussion when necessary. A number of side conferences were also held between the regular sessions on special problems such as the Spectrophotometric Assay for vitamin A, the Biological Assay for Tubocurarine Chloride, the Clarity Test, and Tests for Sterility, for Parenteral Solutions.

Because of inability to arrive at a satisfactory conclusion regarding the Clarity Test, this will be temporarily omitted from the Injection Chapter of the U. S. P. This test has been intensively studied during the past year by a joint committee composed of members of the U. S. P. Revision Committee, the N.F. Revision Committee, and the Combined Contact Committee of the A.D.M.A. and the A.P.M.A. After a number of meetings, and after trying various modifications under manufacturing and control conditions, results were not yet believed to be satisfactory. The committee will continue its study in the hope that an acceptable method can be developed in the near future. Such a method will and should avoid the necessity for the individual judgment of each inspector to decide what is meant by the term "substantially free." It is hoped that the "electronic eye" inspection, now under intensive study, may be the answer. In the meantime it has been decided to insert the following as the second paragraph of the Injection Chapter:

"Every care should be exercised in the preparation of Injections to prevent contamination. Good pharmaceutical practice also requires that each Injection, in its final container, be subjected individually to visual inspection."

With reference to the number of doses in containers of injections it was decided to reinsert in the Injection Chapter the following requirement:

"Number of Doses in Container—Single-dose containers shall be used for all injections intended for intraspinal, intracisternal, intracardial, or intravenous administration, unless otherwise specified in an individual monograph. Single-dose containers must be used for all injections administered at one time in volumes of 10 cc. or more.

"Multiple-dose containers may be used for injections intended for intramuscular, subcutaneous, or intracutaneous administration, but no multiple-dose container may contain a total volume of injection sufficient to permit the withdrawal of more than 10 U. S. P. usual doses, unless otherwise specified in an individual monograph.

"Provisions concerning the number of doses in a container do not apply to injections intended for veterinary use."

This limitation on the size of injection containers was first introduced in U. S. P. XII, about 1942, but it was promptly withdrawn by U.S.P. Supplement when it was found that war conditions made it practically impossible to obtain an increased number of small glass containers and also to find the additional competent operators to fill, lable, and package the increased number of units necessitated by the new requirement. It was again omitted from U.S.P. XIII as war conditions still prevailed, but the U.S.P. Sterile Products Advisory Board has strongly recommended its reinsertion in U.S.P. XIV. The proposal was vigorously discussed at the Open Hearing, having both opponents and supporters, but the Revision Committee finally voted to accept the recommendation of the Advisory Board, believing that this limitation on the size of the injection package provided a desirable measure of safety to the patient which justified the additional cost.

Trade-Mark Classification Changed

THE U. S. Patent Office has announced changes in trade-mark classifications. The former class 6 which included perfumes, cosmetics, and other toilet preparations, now includes only chemicals and chemical compositions; and former class 4, which covered abrasive, detergent and polishing materials, now covers abrasive and polishing materials only. A new class 18—a class which was formerly missing—has been established for medicines and pharmaceutical preparations; and two new classes for cosmetics and perfumes have been established, namely class 51, which includes cosmetics and toilet preparations; and class 52, which includes detergents and soaps. Services in the cosmetic and toilet goods industry will probably be covered in class 100—miscellaneous.

United Nations Narcotic Bulletin

A BULLETIN on Narcotics is now being published by the Division of Narcotic Drugs, Department of Social Affairs of the United Nations Secretariat. The first issue, dated October 1949 contains over sixty pages of material, well illustrated, on slick paper. The plan is to publish four issues a year at a subscription price of $2.00 per year. The bulletin will contain technical and scientific studies on narcotic drugs and articles on legislation and administration in various countries, as well as a bibliography listing current book and articles on these subjects. It will also contain accounts of the preparatory work being undertaken with a view to establishing a single Convention destined to replace the existing eight international instruments on narcotic drugs and to strengthen and simplify the international control machinery. The first issue contains illustrated articles on Opium Production Throughout the World, The Commission of Inquiry on the Coca Leaf, Determining the Origin of Opium, Report on the Fourth Session of the Commission on Narcotic Drugs, a review of the recent actions of the Economic and Social Council in this field, and a calendar of the meetings of the international organs concerned with the control of narcotics. Sales agent in this country is International Documents Service, Columbia University Press, 2960 Broadway, New York 27.

Prescription Drug Information

THE Food and Drug Administration has clarified its position with reference to manufacturers supplying pharmacists with information regarding the dosage and indications of drug products which are to be dispensed only on prescriptions. As a result of recent court decisions, some manufacturers were fearful that the distribution of such information to pharmacists might be deemed illegal by the FDA. However, the FDA made its position clear with the following statement published last month in the Federal Register:

"This agency is aware of statements that the regulations governing prescription drugs prevent the manufacturer from sending to pharmacists data he needs on indications and dosage in exercising his important professional function of checking against possible mistakes in the prescription.

"These regulations emphasize the importance of the profession of pharmacy; they are not intended to deprive the pharmacist of information necessary for the discharge of his professional duty of insuring the integrity of the drug he dispenses on prescription.

"To discourage attempts at self medication with drugs which the layman cannot safely and effectively use without the physician's guidance and which therefore can be dispensed only on doctor's orders, the regulations provide that the labeling of such drugs shall not bear indications or directions, except that the prescription package should bear the directions specified in the prescription. The law defines labeling as written, printed, graphic material accompanying the drug.

"The courts have given a broad interpretation to the definition of labeling, holding it to cover all pamphlets and the like used to inform consumers what the drug is for and how it is to be used.

"The Federal Security Agency regards the supplying of printed matter to the pharmacist for his professional information and not as a means of over-the-counter sales promotion, such as by display to prospective purchasers, as a legitimate means of making information necessary for professional use readily available. This agency has no intention of recommending action based on the supplying or use of such material for that professional purpose."

The Government and Hospitals

FIVE annual expenditures of $75 million each for assistance to States and local committees for hospital construction were authorized in 1946 through enactment of the Hill-Burton Act. The original basis of assistance was, in most instances, that the State or local community would furnish two-thirds of the necessary funds, and the Federal Government one-third. However, under an amendment enacted this year, and effective October 25, the annual expenditure has been doubled to $150 million, and the time has been extended to June 30, 1955. Further, on a basis of State population and relative wealth, the Federal Government may provide up to 66.6 per cent of the total construction costs of new hospitals. Under the amendment five annual grants of $1.2 million each for research into coordination and improvement of hospital facilities and services. This is intended to bring into closer cooperation the large hospital centers and the hospitals in smaller areas, to provide rotating interneships, refresher courses for physicians, clinical conferences, and to provide for common use of diagnostic facilities and equipment, all of which will aid the small hospitals. Surgeon General Scheele reports that as of October 1, 954 new hospital projects had been approved, approximately 400 are under construction, and 50 have been completed and are open. The majority of the hospitals are small, 50 beds or less, located in small towns and rural areas. These new hospitals will provide approximately 37,000 beds, or four per cent of the total estimate of requirements, which is 900,000 new beds. Such a program is expected to encourage young physicians to locate in the smaller communities as they will have hospital facilities available. This should result in a better distribution of medical care, and a consequent lessen of demand for compulsory health insurance.

Gorgas Award to Dental Researcher

DR. H. Trendley Dean, a leader in dental research who was mainly responsible for the development of fluorine as a preserver of human teeth, last month received the annual Gorgas Award at a meeting of the Association of Military Surgeons of the United States. The Gorgas Medal, sponsored by Wyeth, and carrying with it a five hundred cash award, was instituted by the

Association in memory of Surgeon General William Crawford whose work in preventive medicine made possible the construction of the Panama Canal. In making the presentation, Wyeth Vice-president Dr. Frank F. Law related Dr. Dean's accomplishments such as development of a method for the quantitative measurement of fluorides in dental enamel and thus established a basis for determining the least amount of fluorides which can cause dental fluorosis (mottled enamel). This work permitted control of fluorides in city water supplies so that they are incapable of etching the teeth but adequate to control dental decay.

Hospitals in New York State

A REPORT on the economic and social aspects of hospitalization in New York State, with scores of recommendations for the improvement of all types of hospital service, was issued late last month in the form of a 365-page book published by the Columbia University Press. Said to be the most comprehensive attempt of its kind, the report, which took fifteen months to complete, was compiled by Dr. Eli Ginzberg, Columbia economist, and a seventeen-man staff under a $60,000 contract with New York State's Joint Hospital Survey and Planning Commission.

The report has three major findings: that a rich state like New York can get along medically without much Federal help; that voluntary general hospitals, despite warnings to the contrary, were in no worse shape financially than in 1940 and could manage without government subsidies; and that hospital and medical insurance plans should and could give an improved type of coverage to 85 per cent of the State's population. Dr. Ginzberg states that the report represents an effort to show "how to get decent medical care without bankrupting everybody."

The report, entitled "A Pattern for Hospital Care," recommends that the State make major increases in its outlay for mental institutions in view of an estimated increase of 3,000 patients annually for many years to come. It recommends that the State increase its annual hospital aid program of $87,000,000 by $22,800,000, well over half of this being for mental institutions. Other annual increases would be $3,200,000 for tuberculosis; $2,800,000 for chronic illness; and $3,300,000 for greatly expanded facilities for the care of ambulatory patients. A $51.5 million capital outlay over the next five years is recommended for State building and development, virtually all of it for mental institutions. With regard to the long-range $1.4 million plan of 1945 to expand the number of beds in general hospitals throughout the State, the report cautions voluntary hospitals against continuing their growth. Excluded from this warning are hospitals in rapidly expanding areas such as Long Island.

Statistics on voluntary health insurance, published for the first time in the report, give evidence that the potentialities of voluntary insurance may be as great as those offered by compulsory insurance, says Dr. Ginzberg.

"We estimate that a target figure of 85 per cent could be achieved through Blue Cross and commercial health insurance, which is as much as the proponents of national compulsory health insurance promise," he said. Blue Cross and commercial insurance plans can meet the cost of general hospitalization, the most expensive part of medical care, although improvements are needed in both, he added. He said that the major shortcomings of the Blue Cross plans are the limited extent of its coverage, and the chief handicap in commercial insurance is the inability of persons to convert from group coverage to an individual policy when they leave a job. He suggests that voluntary plans be expanded to include diagnostic and ambulatory services, saying that this would require the cooperation of the Blue Shield plan and the establishment of more group practice by doctors.

The report shows that about 57 per cent of the entire population of New York State has some form of prepaid hospital insurance; 5,200,000 persons belong to the Blue Cross plan and an estimated 3,200,000 persons have commercial insurance or are enrolled in special plans primarily connected with group insurance. The report further says that 85 per cent is a "reasonable estimate of the number of persons in New York State capable of paying a premium which would insure them against the risks of acute hospitalization." Dr. Ginzberg said this would be particularly true if employers would help in paying the premiums for low income workers. To give better hospital care to the country at large, the cooperation of both the voluntary hospitals and their medical staffs are needed, according to Dr. Ginzberg, who said:

"Hospitals have to be concerned with giving the best service possible, which has not always been the case in the past. This is primarily because they have not experimented sufficiently with providing ambulatory services which depend largely on the willingness of doctors to practice as a group."

The report recommended that voluntary hospitals be reimbursed out of public funds for welfare clients using ambulatory services. It also recommended that the state grant subsidies for the development of ambulatory services, particularly in up-state regions where there are almost none. Dr. Ginzberg asked that voluntary hospital trustees "fulfill their obligation to view the hospital in its total community relationship," and also offer a maximum opportunity for qualified doctors to join the staff. He also asked that hospitals work cooperatively with other hospitals to avoid overbuilding and duplication of activities which, he said, would only raise costs and tend to provide poorer service to patients.

Multiple Seizures Halted

ALTHOUGH the matter of multiple seizures where a simple question of labeling is involved, is prohibited under the Food, Drug, and Cosmetic Act, a case recently came before a U. S. Circuit Court. The Food, Drug, and Cosmetic Act permits multiple seizures where a product is deemed dangerous to health, as dangerous foods and drugs must be completely removed from the market as quickly and as completely as possible. However, in this case the FDA seized a shipment of a vitamin preparation of Mytinger & Casselberry of Long Beach, Calif., and although immediately following this, changes were made in the labeling, the FDA made a finding of fact "without hearing" and instituted a second seizure. Then more changes were made in the labeling and another finding of fact "without hearing" was made, and another seizure made. Probably fourteen seizures in all were made on this basis before the company proceeded to enjoin from further seizures. From statements made during the trial it became evident that the FDA was contending that this product was dangerous to health because label statements would cause the user to rely on the preparation rather than consulting his physician and obtaining a complete examination and diagnosis. The court ruled that the FDA's seizure methods were unconstitutional, doubtless because the court was not convinced that the product

was dangerous per se, or that in relying upon the preparation a person would endanger his health. It's that old bugaboo of false sense of security which the FDA used in the old days brought back to life.

F. D. A. and New Drug Efficacy

IN VIEW of the large number of antihistaminic drugs which have been appearing on the market, it is well to take note that approval of them by the Food and Drug Administration under the new drug provisions of the Food, Drug and Cosmetic Act, in no way relates to their efficacy. Approval of new drugs by the FDA relates only to the safety of the products when taken as directed. The FDA New Drug Division, in accordance with the provisions of the law, does not take efficacy into consideration. A few years ago efficacy was considered by the official who headed the New Drug Division at that time, but this is no longer the case. The law makes a manufacturer responsible for statements concerning the efficacy of his preparation, and, if in the opinion of the FDA, the claims are excessive, an action on the part of the FDA can be anticipated just as in the case of any preparation.

It is the general opinion that the information available regarding the value of antihistaminic drugs in aborting colds in the early stages is quite convincing. However, the Federal Trade Commission has for some time, through stipulations and cease and desist orders, indicated that it has been the opinion of the majority of the Commissioners that such words as "stop," "rid," "end," and "banish" convey the impression of permanent relief or cure. But there are those in the Commission who have long believed that there are certain minor conditions which are generally only temporary in nature, and which may be stopped by the proper type of medication. Then again, the majority of the five Federal Trade Commissioners are being replaced this year, so the majority of the commissioners may now think differently on this subject. It will be interesting to get their reactions to such claims on the part of makers of antihistaminics as "stop a cold," or "stop cold symptoms."

Antihistaminics Battle to Stop Colds

THE battle of the antihistaminic drugs for the abortion of colds has really gone into high gear with amazing rapidity. Not only has Nepera Chemical Company spread the stocks throughout the country and the advertising via newspapers and radio for its thonzylamine hydrochloride under the proprietary name of Anahist, but the Schering subsidiary, Union Pharmacal Company jumped right in with their Inhiston. Now Bristol-Myers is engaged in the largest introductory advertising campaign in the company's history to get in the market with Resistab, which is the same antihistaminic as Anahist, namely thonzylamine hydrochloride. It is interesting to note that these products are just the straight antihistaminics, and not combinations of an antihistaminic with aspirin, phenacedin and caffeine such as Schering introduced for sale through the doctor. But with Nepera entering the market for cold remedies in this way, and with Bristol-Myers entering the cold market for the first time, it is interesting to note that Grove Laboratories is defending its position in the cold tablet business by also bringing out an antihistaminic for the abortion of colds. Therefore, if these new products prove truly effective and take over the major portion of the cold tablet market, Grove will still be in the field even though their Four-Way Cold Tablets and other cold tablets suffer.

Sterilization in Final Package

STERILIZATION of a wide variety of pharmaceuticals after their final packaging by means of high-voltage cathode rays has been developed at the Massachusetts Institute of Technology, says M. I. T. President Dr. James R. Killian Jr., who adds, "It is clear that the sterility of many heat-sensitive pharmaceutical products can be assured on a practical and economic basis by irradiation with high-energy x-rays." Produced in an electrostatic generator at M. I. T., three-million-volt cathode rays (similar to x-rays but vastly more penetrating) have been directed at a wide variety of important pharmaceutical products during the past year, with the result that Dr. John G. Trump, associate professor of electrical engineering, reports that penicillin, streptomycin, surgical sutures, anticoagulents (such as heparin), and many other substances can be sterilized in their final sealed glass containers without detectable adverse effect on their potency or other properties. "The amount of cathode-ray energy which will completely destroy all bacterial and virus contaminants raises the temperature of the pharmaceutical less than eight degrees," says Dr. Trump.

Ninety Years for Reed & Carnrick

FOUNDED on January 1, 1860, Reed & Carnrick is celebrating its 90th anniversary. Founded at a time when physicians operated without rubber gloves, and practiced without antiseptics, the x-ray, or any of the facilities for bacteriological study which are so common to the doctors of today, the company looks back upon developments of the span of its life in the December issue of its Medical Pocket Quarterly. Interesting are the dates given of the establishment of the eight oldest drugs houses in this country:

Scheiffelin & Company	1784
The Tilden Company	1824
The Wm. S. Merrell Company	1828
E. R. Squibb & Sons	1858
Reed & Carnrick	1860
Sharp & Dohme	1860
Parke Davis & Company	1866
Eli Lilly & Company	1876

In The Pageant of an Era, the reader starts back in the days of the stereopticon, balloon ascensions, the daguerreotype, the California of the gold rush and the pony express. He is taken through the days of Lister, Pasteur, Metchnioff, Brown-Sequard, Roentgen, the Curies, Ehrlich, and Fleming. A most interesting brief history of the advances in medicine through these ninety years is tied in with other advances in human progress in this country.

Antibiotic Specialties

REPORTS about the trade with reference to the volume which Lederle does in Aureomycin place the figure at a million dollars per month, or twelve million dollars per year, which competitors state is quite some volume for a single specialty of a pharmaceutical manufacturer. It is also estimated that Chloromycetin—the Parke Davis antibiotic specialty—is not very much behind Aureomycin in dollar volume.

Spectrophotometric Vitamin A Assay

WITH reference to the replacement of the rat assay method for vitamin A by the spectrophotometric method in U.S.P. XIV, to be issued in the Spring of 1950 and becoming official six months later, B. L. Oser of Food Research Laboratories has simplified the mechanics of applying the Morton-Stubbs correction by combining the slope and height corrections into a single equation from which a monogram was prepared to permit direct reading of the correction factor.

Dr. Oser says that although the spectrophotometric (E value) procedure has been known and used for some time, a method has recently been devised for improving its specificity as a measure of vitamin A by eliminating the interference of other substances which absorb light in the same ultraviolet range. R. A. Morton and A. L. Stubbs, the English chemists who devised the correction procedure did it in two steps. They first corrected for distortion of the absorption curve from the true vitamin A curve such as may be caused by oxidation products and other non-vitamin substances, and then, as a second step, they corrected for the displacement in height of the curve by such irrelevant absorption.

Among the practical aspects of the application of the Morton-Stubbs correction is the disproof of the common assumption that high potency vitamin A oils, such as those from halibut or tuna liver, contain very little irrelevent absorption and do not require saponification before being tested spectrophotometrically. As a matter of fact, says Dr. Oser, the Morton-Stubbs procedure indicates significant correction of the E value of these types of oils even after saponification. Results of data accumulated in collaborative studies indicate the advisability of applying the Morton-Stubbs procedure to unsaponifiable extracts for another reason also; namely, that saponification converts different types of vitamin A esters, present in natural products, to vitamin A alcohol. The measurement of vitamin A in a single molecular form avoids errors due to the difference in position of the absorption curve for vitamin A esters as compared with the alcohol.

The physico-chemical assay soon to be adopted and made official in U.S.P. XIV will gain in specificity by correlation with the well-known colorimetric (antimony chloride) test, says Dr. Oser. The latter will be incorporated into the monographs for U.S.P. vitamin A products as an identity test with the provision that the ratio between the colorimetric and spectrophotometric values shall be between 1.00 and 1.30. If this criterion is not satisfied, the product will not meet U.S.P. specifications and the spectrophotometric assay and will not be applicable. Thus the colorimetric test will be required only to establish the validity of the spectrophotometric assay. Once the proper relationship is known or determined for any given oil or concentrate, the spectrophotometric assay can be relied upon as the official assay and the colorimetric test dispensed with for subsequent routine assays.

The new official assay will, of course, give a more reproducible (hence more precise) evaluation of vitamin A content than the currently official biological assay, says Dr. Oser. However, while it is not quite as reproducible as the simpler forms of spectrophotometric test of whole oils now in wide use, it will provide a more nearly correct (hence more accurate) estimate of the true vitamin A content of natural materials. In effect this means that the new spectrophotometric assay will, to a small and variable degree, reduce the numerical rating of vitamin A content of most fish liver oils as compared with values obtained by previous unofficial spectrophotometric methods. Generally speaking the extent of this decrease will be in the neighborhood of 10 per cent but in individual cases it may be substantially greater. Since the new method will avoid overestimation of the true biological potency, it should work to the ultimate advantage of producers, processors, consumers, and control officials alike.

Fishbein Quits A.M.A.

DR. Morris Fishbein is now to finally quit the American Medical Association and his positions of editor of the Journal of the A.M.A. and Hygeia to take a new position. He is to be medical consultant for Doubleday and Company, the New York publishing firm, and its subsidiary the Blakiston Company of Philadelphia, publishers of medical books. Dr. Fishbein will stay in Chicago while in his new position. Dr. Austin Smith, chairman of the Council on Pharmacy and Chemistry of the A.M.A., and of the Council on Cosmetics of the A.M.A., will edit the Journal of the A.M.A., and Dr. W. W. Bauer, director of health education of the A.M.A., will edit Hygeia.

An Outstanding Meeting

THE American Pharmaceutical Manufacturers Association held another outstanding Winter meeting the end of last month in New York. On the second day of the meeting the morning and afternoon sessions were, as usual, given over outstanding medical men who reported on progress in the most important medical problems. These papers included: "Progress of Medical Research in First Hal of Twentieth Century," by Dr. Austin Smith, secretary of the Council on Pharmacy and Chemistry of the American Medical Association; "Research Progress in Anticoagulant Therapy," by Dr. Irving S. Wright, Professor of Clinical Medicine, Cornell Medical College, and President of the American Heart Association; "Research Progress in Antispasmodic and Antiepileptic Drugs," by Dr. H. Houston Merritt, Professor of Neurology, College of Physicians and Surgeons, Columbia University; "Research and Growth in the Field of Anesthesia," by Dr. Henry K. Beecher, Dorr Professor of Research in Anesthesia, Harvard Medical School; "The Search for Better Antimalarial Drugs," by Dr. Alf S. Alving, Professor of Medicine, University of Chicago Department of Medicine; "Research in Antibiotics," by Dr. Perrin H. Long, Professor of Preventive Medicine, Johns Hopkins University School of Medicine; "Research Progress in Clinical Development of ACTH," by Dr. George W. Thorn, Hersey Professor of the Theory and Practice of Physic, Harvard Medical School; "Some Drugs which the Gastroenterologist Wishes to See Developed," by Dr. M. I. Grossman, Associate Professor of Physiology, Department of Clinical Science, University of Illinois College of Medicine; "Present-day Perspectives in Metabolic Research," by Dr. Samuel Soskin, Medical Director, Michael Reese Hospital in Chicago, Professorial Lecturer in Physiology, University of Chicago; "Basic Role of Drugs in Modern Therapy," by Dr. Joseph M. Hayman, Professor of Medicine, Western Reserve University.

Other features at the meeting were reports on the U. S. Pharmacopoeia; devaluation and its effect on sales problems, development of new products, inventory and financial control, progress against legislation to socialize medicine, the place of isotopes in diagnosis and treatment of disease, and control of coronary disease.

EWING GALLOWAY

NEW VIEWS ON VITAMIN A Part I

By MILTON A. LESSER

THE vitamin A picture is going through many changes. Some of these changes are concerned with improved standards and assay methods for this nutritional factor. Others have resulted from a growing knowledge of the requirements and utilization of the vitamin. Greatly influencing the outlook are the superior methods for separating and concentrating the material from various primary sources. Undoubtedly of even greater importance are methods for synthesizing vitamin A. The effects of such developments, as well as the availability of efficient methods for making aqueous dispersions of the oil-soluble vitamin, will no doubt be quite evident in the fields of nutrition and therapy.

Before going into details on the newer developments, it is advisable to consider briefly the well-established data on vitamin A. The nutritional factor is a pale yellow, oil-soluble substance which is said[1] to be stable

to heat, acids and alkalies. It is destroyed by light and is sensitive to oxidation. It acts synergistically with vitamin E which protects vitamin A, apparently through its antioxidant properties.

Chemically, vitamin A may be described[2] as an unsaturated cyclic alcohol with the empirical formula, $C_{19}H_{27}CH_{23}OH$. It is found only in the animal kingdom; presumably occurring in all species of fish, birds and mammals. It is stored chiefly in the liver but when excess quantities are present it may also be found in the kidneys and lungs. Some of the vitamin A is present as the free alcohol, but the greater proportion occurs as esters of the higher fatty acids and related unsaturated acids. So far as is known, however, the source of all vitamin A in the animal kingdom is in the carotenes and closely related carotenoids which are synthesized by most plants. Fish make vitamin A from the carotenoids of plantston, while herbivorous land animals make it from the carotenoids of the green leafy foods on which they graze.

The best sources of vitamin A include halibut liver and cod liver oils, mamalian livers and milk. As carotene it is abundantly present in green leafy vegetables and in carrots. Eggs and butter contain both carotene and vitamin A.

Speaking as a pediatrician, Vonachen[3] has pointed out that vitamin A is essential to the normal vitality of the epithelial cells. It increases resistance to skin and other infections, promotes growth and mental development and aids in maintaining normal glandular function. In addition, it should be noted that vitamin A plays an essential role in the mechanism involving light and color vision.

As indicated by Harris,[4] the signs and symptoms of vitamin A deficiency may include diminished powers of dark adaptation, progressing to night blindness; xerosis and keratinization of various membrane tissues, giving rise to a liability to local infection; a keratinized follicular papular eruption of the skin; xerotic changes in the conjunctiva and cornea, leading to xerophthalmia and, in advanced cases, to keratomalacia. In vitamin A-deficient experimental animals, other changes have been observed, including the formation of renal calculi, degenerative changes in the central nervous system, periodontal hyperplasia, overgrowth of bone, failure in reproduction, and, of course, an impaired growth rate.

Put another way, Vonachen[3] remarks that if xerophthalmia or certain types of hyperkeratosis of the skin are observed in an individual, a vitamin A deficiency is suspected. The outgrowth of a mild deficiency of this sort can be evidenced by poor appetite, mild diarrhea, retarded growth, lack of vigor, dry skin, dental caries and loss of weight.

With these facts as a background, it is possible to go into a consideration of the new factors that have entered the vitamin A picture. Of basic importance is the acceptance of a new standard and the almost certain establishment of a new official assay method. That there was a definite need for a more satisfactory reference standard for vitamin A was long appreciated by those concerned with the assay and with the purchase of this substance. As was pointed out by Ellenberger, Guerrant and Chilcote,[5] some of the difficulties encountered in the various methods of assay have been due to the difference in potency in samples of the former standard, which was known as U.S.P. Reference Cod Liver Oil No. 3. On January 1, 1948 this was replaced with a new U.S.P. Vitamin A Reference Standard, which consists of crystalline vitamin A acetate dissolved in cottonseed oil. Specifically, the new standard is a cottonseed oil solution containing 3.44 mg. of vitamin A acetate in each gram. The assigned potency for biological comparison was set at 10,000 U.S.P. units of vitamin A in each gram.[6]

There has also been much disatisfaction with the official, biological assay method for the quantitative determination of vitamin A. The official (U.S.P. XIII) bioassay method for fish oils containing vitamin A requires the use of rats raised especially for this purpose. These animals are bred and raised so that their growth requirements for vitamin A are fairly constant. Even with this and other procedures which aim at creating dependable test conditions, there are many variables inhe ent in bioassay methods to influence the final figures.

Because of such considerations and because biological assays are quite costly and require considerable time, many commercial organizations have adopted chemicophysical methods for estimating the vitamin A content of fish liver oils. However, as reminded by Butler,[7] the biological activity of the vitamin A in the oil is, at present, the ultimate assay criterion.

In their search for non-biological methods, many workers have tried to measure the vitamin A content of liver oils and related materials by chemical methods. One of the most reliable and widely used of these tests is known as the Carr-Price method.[8] This involves the reaction of antimony trichloride to give a characteristic blue color, the intensity of which is directly proportional to the amount of vitamin A present in the sample.

More recently, Sobel and Werbin[9] have proposed the use of activated glycerol dichlorohydrin as a colorimetric reagent for determining vitamin A. Not only does this compound appear suitable for quantitative purposes, but it also offers certain definite advantages over the Carr-Price reagent. Perhaps the most important of these advantages is the fact that glycerol dichlorohydrin produces a violet color that is stable for from two to ten minutes after the addition of the reagent. This is in marked contrast to the rather fleeting color produced by antimony trichloride.

Among physical methods, the most important is the determination of vitamin A by means of a spectrophotometer. As explained by Butler,[7] this method is based on the measurement, through the use of a photoelectric cell and an electric meter, of the amount of light transmitted by a solution of the fish liver oil.

Vitamin A has the property of absorbing a specified band of ultraviolet light in an amount which is a function of the quantity of the vitamin present in the solution. Butler also points out that the technic of operations, the most suitable solvents and other considerations of the test have been fairly well standardized.

It has been recognized that neither the colorimetric nor the spectrophotometric methods are wholly satisfactory because breakdown products and other closely related compounds interfere with their accuracy. However, it has been found that a combination of the two methods gives improved evaluations.[10] Results of the two procedures are brought into rather close agreement by applying a correction factor, known as the Morton-Stubbs correction,[11] to the data obtained spectrophotometrically. This correction eliminates the effect of irrelevant materials which absorb light in the same range as vitamin A. The degree of correlation obtainable between the two methods has been clearly indicated by the results given in the report by Oser and Blitz.[12] Their studies provided data obtained with various natural oils, concentrates and synthetic vitamin A preparations.

Also very pertinent are the comparisons made by Chilcote, Guerrant and Ellenberger[13] on the relative merits of four methods of assaying vitamin A. They reported that much of the extraneous material normally present in some fish oils, which interferes with vitamin A determination by chemicophysical methods, may be at least partially eliminated by saponification and by chromatography without serious loss of the vitamin. In general, the highest vitamin potency was indicated by the spectrophotometric method of assay when applied to the whole oils, whereas the biological method generally indicated the minimum potency. The antimony trichloride and glycerol dichlorohydrin methods of assay, when applied to the nonsaponifiable fraction, yielded vitamin values somewhat more comparable to those obtained by the biological assay than were the values obtained by the spectrophotometric procedure when conversion factors of 2000 and 1925 were used in the calculations.

As a result of the evidence accumulated in such studies, it is now generally believed that a chemicophysical method will replace the bioassay procedure in the next Pharmacopoeia.

Accurate assay is important in assuring the purchaser—whether it be the pharmaceutical manufacturer or the ultimate consumer—that full vitamin A value is being received. While the ideal aims at providing adequate vitamin A intake via the daily diet, there are many occasions (as in the feeding of infants and young children) where supplemental intake of the vitamin is indicated. The recommended daily dietary allowances of vitamin A, as given by the Food and Nutrition Board of the National Research Council is 5,000 I.U. (International Units) for adults, 6,000 I.U. during the latter half of pregnancy and 8,000 I.U. during lactation. For infants, the recommended allowance is 1,500 I.U. of vitamin A. After the first year, the amount is gradually increased until, at 12 years of age, the child receives 4,500 I.U., after which the adult levels are recommended.[14]

For a long time, however, there had been but little experimental evidence on which to base a figure for actual vitamin A requirements[2]. Moreover, the few studies that had been made on humans had involved but small samples of subjects. As was remarked in one discussion,[15] discrepancies between the results of the several studies were quite marked and a large-scale, rigorously executed investigation was obviously needed. An approach to such an investigation[16] was started in England several years ago.

In this work a study was made to determine the minimum daily requirements for vitamin A in the normal healthy adult. A group of 23 volunteers were placed on a diet of natural foods essentially free of vitamin A and of carotene, but otherwise dietarily complete. This diet was consumed for periods lasting up to 25 months. Seven of the subjects served as controls, five were given 5,000 I.U. of beta-carotene and two received 2,500 I.U. of vitamin A per day. The vitamin A and carotene levels in the blood of each subject were determined at frequent intervals and dark adaptation tests were also made.

It was found that the blood levels of total carotenoids were reduced by 50 per cent within the first month. A slightly lower level was then reached and was maintained with fair uniformity for about two years. Vitamin A levels, however, responded quite differently and no indication of lowered values was obtained for about eight months. Even then, only 10 of the 16 subjects showed a pronounced lowering of the readings. As the vitamin A blood levels decreased there was a definite deterioration in dark adaptation.

As a result of these tests and many other carefully made determinations it was concluded that a normal person has a considerable reserve of vitamin A which is not readily depleted. These data also led to the conclusion that a minimum daily intake of 2,500 I.U. of vitamin A or 7,500 I.U. of beta-carotene would allow a good margin of safety.

In an editorial discussion of these findings and conclusions, appearing in the *American Journal of Digestive Diseases*,[17] it was remarked that, "It is clear that vitamin A deficiency is much less easily or rapidly-induced in hitherto well-fed adults than has been previously supposed. This conclusion is of practical importance, but it must not be overlooked that the scope of this experiment was restricted, and its results are not applicable to the needs of children, pregnant or nursing mothers, or the chronically undernourished." It is also observed that the positive findings were too scanty to justify a precise estimate of the requirement of vitamin A or carotene.

Also of interest in connection with the British report is an observation[2] made a few years ago. Here it was stated that although some claims have been made which point to the common occurrence of a slight or

(*Continued on page 694*)

DEVELOPMENT OF NEW PRODUCTS

By WILLIAM BURDELL BAKER*

NEW product development in the drug industry today, in the broad sense, is both an art and science. The blend is predominantly scientific, but the successful and orderly correlation and coordination of the intricate pattern of the many technical, non-technical, and commercial phases, is an art.

What constitutes a drug product that is new, in the strictest sense of the word, is a subject which may be open to some debate. However, a sensible view of the issue should reveal the existence of varying degrees of newness, extending from the rare product which is completely new in every respect, to one which has a relatively minor new "touch." The improvement of existing products, processes, packages or containers, whether for the purpose of alignment with modern therapy, for effecting economies, or for more effective presentation of the product, admittedly and rightly has its place also in today's version of product development.

The new drug or pharmaceutical product or process is a terminal result of the brains, sweat, and stamina of the various members of an organization's research and development team; whose worthy efforts are usually coached, fostered, and inspired by a progressive top management.

The functions of the research and development group are as broad as the many segments comprising the group, and the end results are proportional to the nature and quality of its personnel. Thus an important requirement of a good product, whether produced by a large, medium, or small firm, is related to the foundation which nurtures it from the time of its birth as an idea.

The procedure by which the product is to be developed will depend on the structure of the research and development group, which will vary, necessarily, in accordance with the size and nature of the firm. A large firm will usually employ greater specialization technics, including specialized divisions and personnel; whereas a smaller firm will adapt its functional procedures to fit its limitations. The smaller firm, however, need not be handicapped in achieving its aims merely because of size; especially if its management and directing personnel make use of maximum ingenuities and properly exploit its strengths.

The research and development group, whether in a large or small firm, should command high stature within a drug organization. The leadership, whether vested in one individual for both basic research and the various phases of development, or in two capable, closely-working individuals, if research and development are maintained separately, should be of the highest possible order.

Along with any other virtues with which they may be endowed, ideal research and development personnel as a whole, in addition to being properly trained and properly placed, should possess maximum enthusiasm for their work, and a clear-cut conception of their objective.

Obviously each firm must decide for itself what organizational structure to employ as the procedure of choice; whether it shall have single top leadership for both basic research and development, or whether to divide its responsibilities.

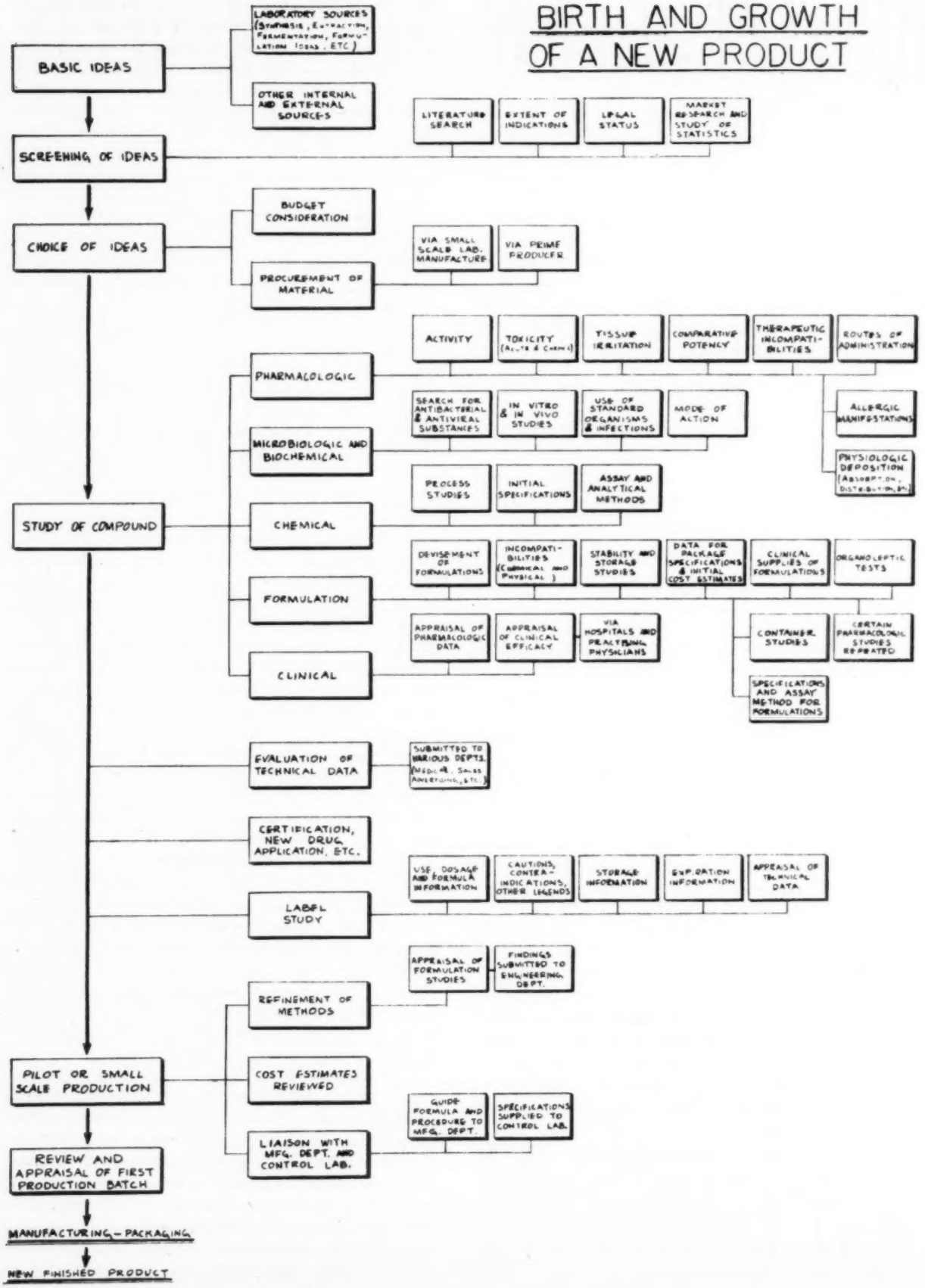
Each firm will also decide how much accent to place on specialization. As mentioned before, a large pharmaceutical organization is likely to employ much specialization, by creation of individual divisions in which specialized personnel is used to the greatest extent. Other firms of smaller size or different nature may not find it expedient or efficient to employ the same technics, at least for all of its phases, but may practice partial specialization, and utilize personnel of versatile talents in certain combined roles. Still other organizations, such as those who carry on a minimum of basic research, or none at all, may circumvent some of the divisions or departments that other firms, who accent basic research to one degree or another, must have for furthering their improvement and growth.

The concept of product development as exemplified by R. J. Dahl of E. R. Squibb & Sons, and presented at the Boca Raton meetings of this Association in April, 1947, subscribes to the assignment of the total research and development functions to one individual or group. Furthermore, Dahl rightly deplores the deficiency, where it exists among drug manufacturers, in the recognition of the full scope of product development; and he also emphasizes the need for a clearly defined mechanism in the operation of the program.

Incidentally, another phase of Dahl's concept subscribes to the logic of including the non-technical aspects involved in the development of a product under the same top leadership as the technical aspects. The sound reasoning here is a reminder of an obvious, but often overlooked, fact; that product development is more than technical development, since there are also many non-technical elements that contribute importantly to the creation of a product when properly integrated with the technical aspects.

*Director, Division of Pharmaceutical Development, Research and Development Laboratories, E. R. Squibb & Sons.
Presented before the American Pharmaceutical Manufacturers Association, November 30, 1949.

BIRTH AND GROWTH OF A NEW PRODUCT



Future of Product Development

Product development has a brilliant future. It is a fascinating fact that in spite of the many thousands of compounds produced thus far by synthetic means, there are literally thousands more of other organic compounds which still remain to be synthesized, and their worths evaluated, in the years to come. Biological preparations, although not holding a place of importance quite as high as they did several years ago, still command the respectful attention of the investigator. Natural sources of therapeutic substances by no means have been depleted. Fermentation chemistry and antibiotic development not only opens new vistas in this comparatively new field, but also provides additional stimulus to the field of organic synthesis.

Within the past few years, it has been estimated that synthetic products account for about 50 per cent of the sales volume of ethical drug products. One such estimate based on a survey of pharmaceutical specialties indicates that biological and biochemical preparations account for about 40 per cent of the field.

Cost of New Product Development

There is always the question of how much a firm should spend or, more accurately, *invest* in its program for the development of new products. The budgeted amount of the investment will be decided of course by the top management of each firm. It should be remembered that such expenditures *are* investments, that therefore, they should be made with vision and business foresight, and that quality begets quality.

Estimates in recent years pertaining to research and development expenditures among pharmaceutical manufacturers have been mentioned as ranging from 2 to 10 per cent of the gross income, and no doubt most of you will recall the results of the survey in the pharmaceutical industry conducted by Charles Wesley Dunn in 1946, which showed an average expended figure approximating 3 to 4 per cent of net sales, and in some cases as high as 10 per cent. It may seem paradoxical that, usually, the smaller company finds it necessary to expend a larger proportion of its income for research and development activities; at least, if such a company indulges in an appreciable and significant amount of pure or basic research.

Estimates and surveys from reliable sources are invaluable aids to manufacturers, especially in their consideration of budget requirements. Any sound research and development program must be assured financial protection for its needs, ranging from adequate and first-class personnel to proper facilities. The intelligent application of good statistical information will, in turn, aid in determining the number and kind of new product projects in which a firm can indulge; and, in turn, will reflect the quality and quantity of new products which the pharmaceutical firm requires to exist, thrive, and advance.

It is quite difficult to attempt an estimate of the number of proportion of marketable products that will result from any given number of product projects. A certain study may tempt one to estimate that one marketable product may be expected for every five projects undertaken, whereas another series of projects studied may cause the estimate to reveal that one marketable product may be expected for every twenty-five projects undertaken. Such estimates are so variable that one who assumes the undertaking, especially if too much generalization is employed, runs the risk of capriciousness.

It is also difficult to estimate an average length of time, for a given number of projects, from initiation of the project to the time when a product may be ready for the market. However, for individual projects such estimates are frequently feasible, and should be a part of the development program whenever possible, since they would be of much assistance to the manufacturing department in planning for production, and helpful to the advertising and other departments in the timing of release schedules.

Birth of the New Product

The development of a new product may begin at the beginning, or somewhere else along the road leading to the finished product. Which is to say that the steps in the procedure will vary in number and kind, in accordance with the chosen function of the manufacturer; whether he is operating in part as a basic producer of natural or synthetic drugs, or whether his plans for the new product involve only simple or complex pharmaceutical compounding of drugs or chemicals which he himself did not extract, mill, nor synthesize.

A view of the general steps in the procedure is in order at this point, if a better understanding and appreciation of the development of new products is desired.

By means of the accompanying flow-chart various steps in the evolution of a new product are traced from its birth, beginning with inception of the idea, to its maturity; and in this instance maturity is considered as the point at which the new product is shown to be ready for submitting to the market. You will understand that the procedure outlined is to be considered more aggregate than truly typical for firms of every kind and size. Adaptation by individual firms would, of course, have to be made depending upon their particular structure.

It is realized that today most pharmaceutical manufacturers, large, medium, and small, perform in a *dual* role; partly indulging in basic researches for new synthetics, antibiotics, natural extractives, or glandular products; and partly depending upon prime specializing producers for sources of single or multiple components which, after due trial and investigation, will comprise a new, finished formulation.

(*Continued on page 725*)

LEMON GRASS OIL

PHOTOS COURTESY JULIAN W. LYON AND HAROLD A. SOTHERN, AGENTS FOR OFICINA CONTROLADORA DE ACEITES ESENCIALES.

THE world today is at peace, at least so far as the ships of commerce are free to move in practically any parts of the world without interference. Also, the only barrier to the freedom of trade between the various nations of the world appears to be that of exchange. However, since this country's exchange is not only acceptable, but greatly desired, all over the world, the problem of importing goods and commodities into this country at reasonable prices should present no major problem. However, in the case of oil of lemongrass the question of sufficient supplies and what would normally be considered reasonable prices, is a serious problem to the users of this material.

Lemongrass oil, a product which this country consumes to the extent of upwards of a half million pounds per year, is in demand mainly because it is the best source of citral which occurs to the extent of 70 to 80 per cent in the oil. While citral occurs naturally in many other essential oils, the highest percentage of citral in any of these other oils appears to be 35 per cent. Citral finds its use as citral in lemon and other flavoring compounds, in the incorporation of lemon and verbena scents in perfume compounds, in cologne odors, and in perfumes for colored soaps. To quite some extent, the lemongrass oil is used as such in soap to obtain the citral odor. But beside its use directly in flavors and perfume compounds, citral finds a very large use as a raw material for the preparation of the ionones, the aromatic substances which are used to obtain odors of the fruity or woody type, and which are also used to impart a raspberry note to flavors.

Beta-ionone, one of the group of ionones obtained from citral, has recently risen to prominence as one of the starting materials necessary in the synthesis of vitamin A. Synthesis of this vitamin—which formerly was obtained wholly from fish liver oils—is now being developed in an intensive manner by one of the leading pharmaceutical manufacturers. A large plant for the synthesis is being built, and the vitamin is now being synthesized in a somewhat curtailed manner by this manufacturer and also by another manufacturer. A third manufacturer has dropped out of the picture due because costs for vitamin A are too high in comparison with the cost of obtaining the vitamin from fish liver oils.

The pharmaceutical manufacturer who promises to become the dominating factor in the synthesis of vitamin A buys lemongrass oil and prepared his own beta-ionone from it for his vitamin synthesis. At the moment there is not available any estimation of what the eventual quantities of vitamin A synthesized per year will be. This will depend upon the extent to which the synthetic will replace the natural vitamin. And this replacement will depend upon a number of factors among which are the value or lack of fish odor and taste in the synthetic, the comparative stability of the two types alone and in combination with other vitamins, the assurance of a steady supply of either one based on the continued supply of the right kind of fish in the case of the natural, and based upon a continued supply of raw materials, such as citral or beta-ionone, in the case of the synthetic. There is no way of estimating what the production of vitamin A by synthesis will be, therefore, nor is there any way of estimating how much lemongrass oil will be required for this purpose at any given time.

However, there are those in the lemongrass oil business who have been of the opinion that here was an immediate market for greatly increased quantities of the oil. To what extent this manner of thinking influenced importers here and primary markets will never be known. But if they are entertaining any ideas that this use for lemongrass oil is exerting any definite influence on the market for the oil at the present or will exert any influence in the near future, they had better dispel them. The manufacturer who will undoubtedly

dominate the synthetic vitamin A market has on hand enough lemongrass oil to fill his scheduled requirements for at least a year. Therefore, as regards present supplies on hand, and the lemongrass oil to be produced during the coming year, only the normal demands of former years will consume the oil. Due to one maker of synthetic vitamin A abandoning the market, and due to another having a year's inventory on hand, the movement of lemongrass, citral, and beta-ionone for this purpose has come and gone for a year at least.

Why then is this important basic essential oil, which for the greater part of the past twenty years sold at prices closer to fifty cents than to one dollar, and which rose in price to one dollar or slightly more on very few occasions, now selling at upwards of two dollars? The market at the opening of this month stood at levels of from $2.25 to $3.00, according to seller, and primary markets were quoting over two dollars to importers. Here we have a situation which, while not new or novel in the field of essential oils or natural raw materials, is certainly unprecedented in the market for lemongrass oil.

There are several places throughout the world in which lemongrass is grown and exported to this country. The country which is perhaps the oldest and largest shipper of lemongrass oil is India. The Belgian Congo, British East Africa, and Madagascar have also long been shippers of lemongrass oil. However, very large quantities of lemongrass oil now come from our own hemisphere with Guatemala the principal shipper from this hemisphere, followed in 1948 by Haiti, Brazil, and Salvador, in that order, with small amounts coming from the Dominican Republic, Mexico, and Honduras.

Lemongrass oil imports into this country in 1948 totalled 501,000 pounds, and this might be considered on the low side. During the nine previous years imports were: 1947, 628,229 pounds; 1946, 917,745 pounds; 1945, 1,296,388 pounds; 1944, 1,028,388 pounds; 1943, 412,715; 1942, 734,350 pounds; 1941, 512,538 pounds; 1940, 380,231; 1939, 530,746 pounds. Imports for the first six months of 1949 totaled 353,716 pounds. Because imports for 1948 and 1947 were well below the imports of the previous few years, it would appear that supplies in this country were pretty well depleted by the beginning of this year. Also, imports during the first half of this year do not appear excessive, and from the condition of the market at the moment, they appear to have gone rather rapidly into consumption.

The smallness of the imports for 1948 was probably due in large measure to the fact that the market was strong and moving up during that year. Most importers thought that the market was too high in price and they refused to take on any supplies over and above what was actually needed at the moment. The price of $1.03 in the trade in July 1948 scared buyers away so badly that buying was practically at a standstill. However, the market was basically strong and continued to a level of $1.35 per pound at which point buyers were forced to take on supplies for their needs. But the upward rise continued to $1.40 and finally to $1.75 per pound. At this point the knowledge was abroad that Sterling and other currencies in the Sterling bloc were over-valued. Therefore, many lemongrass oil buyers got the impression that the advance from $1.40 to $1.75 was an attempt by the foreign shippers in the Sterling area to discount the probable break in the value of their currencies. However, when Sterling and the related currencies were finally devaluated, the price of lemongrass oil in dollars was quoted at four per cent *above* its value before devaluation. And still the price rise continued until it shot through the two dollar level, and the end was not yet in sight.

While India was long the principal source of supply of lemongrass oil, since 1940, Guatemala has become an important secondary source, being responsible for between 116,000 and 190,000 pounds per year during this period. In 1948, Guatemala sent us 142,333 pounds, and the high mark was 190,542 pounds in 1943. During

(Continued on page 686)

BETTMANN ARCHIVE

HAIR PREPARATIONS

By HARRY HILFER

WITH an increasing emphasis taking place in cosmetic materials in a direction which would indicate that the best selling preparations are those whose effects are immediately visible, hair preparations have increasingly become greater factors than ever before. These preparations include shampoos, permanent waving solutions, color rinses, hair grooming agents and hair rinses among others. They all serve to beautify the hair though the mechanism by which they achieve their function varies from preparation to preparation. The division, however, may be broken down into five different functions which include cleansing, waving, softening, coloring and grooming. Preparations formulated to serve each of these functions will be discussed in turn.

Shampoos—The cleansing agents for the hair are perhaps the most important of the hair preparations, since clean hair is a prime consideration. Progress in the evolution of the present popular shampoos has been almost of a revolutionary character during the past fifteen years. A soap solution containing a relatively large concentration of coconut oil soap was the most popular before the advent of the sulfated alcohols. The reason for the change lies in the high percentage of hard water areas, geographically, where the soapless detergents are capable of doing a far better job because of their non-susceptibility towards precipitation by calcium or magnesium. Soaps are capable of as good cleansing activity as are the soapless detergents in distilled water, but suffer by comparison in hard water areas. There are many physical characteristics of soaps which make them the more easily used in shampoo formulations as compared to sulfated alcohols, for example. The solubility of soaps with increase in molecular weights does not show nearly as great a drop as do the sulfated alcohols or sulfated or sulfonated detergents in general. Soap mixtures whose effects are not as irritating as is that of a lauric acid soap by itself, are therefore more easily prepared than are mixtures of sulfated lauryl alcohols and its higher homologens. In addition, the use of sequestering agents in conjunction with soaps in a shampoo would mitigate against precipitation of calcium in its use. Unfortunately, those sequestrants which could be used in high enough concentration to further prevent precipitation because of added calcium in the rinse water, and which do not hydrolyze in aqueous solution on long standing, are too expensive for use in this medium. The cheaper sequestrants such as the polyphosphates all show a tendency towards hydrolysis in water in less than one year's time.

The necessity for detergents which do not precipitate calcium is caused by the dulling effect of the calcium precipitate on the hair. Clean hair has a natural sheen of its own which greatly enhances its appearance. Any deposit left on it due to precipitation of calcium soaps masks this sheen and causes the hair to appear dull. The sulfated and sulfonated detergents have, therefore, become as popular as they are because of their ability

to clean in hard water without any deposition of calcium deposits.

The shampoos themselves are currently marketed as clear liquids, emulsions which are easily pourable, emulsion creams, and clear gels of cream-like consistency. The clear liquids consist of solutions of any of the available sulfated detergents as either the ammonium or triethanolamine salt because of their greater solubility in water. Included in solution may be some of the so-called conditioning agents, materials which are capable of clinging to the surfaces of the hair during the rinse, and which make the hair more easily manageable as a result, after shampooing. Such agents are the basis of a good many patents and will therefore not be discussed here. The detergents, themselves in most common use, are sulfated lauryl alcohol and glyceryl monolaurate monosulfate. Other compounds used are the lauryl sulfoacetates as well as many others including the alkanolamine condensates.

The liquid cream shampoos are formulated in much the same manner, but here the sodium salt is in more common use. The opacifying agents consist of glyceryl monostearate, ethylene glycol monostearate, propylene glycol monostearate among others. This list of opacifiers, however, is far from complete since in addition there are a large number of new compounds such as amidic esters which perform this function satisfactorily. The inclusion of the opacifier has a tendency towards reduction of foaming potential and detergency. However, small amounts do not cause the reduction to be so great that it causes the preparation to lose any of its lathering and detergent properties by too great an amount. The alkanolamine condensates are sometimes used here as viscosity modifiers without too great alteration of detergent properties.

The cream shampoos utilize the stiffening effects of a small amount of sodium stearate in conjunction with a small amount of opacifier. In all these preparations the amounts of active ingredients which may be added are dependent upon the cost of the desired finished formulation, but generally speaking they run in the neighborhood of 20 per cent.

Permanent waving solutions are still very much a part of the cosmetic picture. These preparations are rather in a class by themselves in that they are used in beauty shops as well as in the home. Direct sales to the consumer (aside from consumption in beauty shops) seem to be as strong as ever though the bulk of the market is now divided among fewer manufacturers. Their efficacy depends on the ability of the thioglycollate salts used to reduce the cystine molecule in the hair to cysteine, with subsequent use of an oxidizing agent—usually hydrogen peroxide or a bromate salt—to regenerate the cysteine to cystine. When this oxidization is accomplished, the hair has been stretched by means of curlers so that the cystine formed will be from two adjacent cysteine molecules rather than from the two opposite molecules resulting from the preliminary reduction. The regeneration of cystine under these conditions will cause the hair to retain the structure given it by the curler.

The solution contains anywhere between 4 and 6 per cent of thioglycollic acid fixed at a pH of about 9 to 9½ by means of ammonium hydroxide or other alkali. Observance of rigid pH tolerances are important, since too alkaline a medium may cause some depilation to take place. The use of the bromate or other oxidant is also important since the waving is a two step process and the regeneration to cystine is as necessary a step as is the primary reduction. There are at present, as far as the writer knows, no other reducing agents, with the possible exception of thioglycerol, in common use as reducing agents for the hair. The thioglycollates apparently do a satisfactory job, but there has been some discussion of the development of a reducing agent which would serve the same function, but would be capable of acting as an oxidizing agent with the help of atmospheric oxygen after it served its function as a reducer. Such a product would obviate the need of an oxidizing agent and therefore simplify the waving process. However, no such agent has appeared, to the writer's knowledge, and its development will not be easy.

These solutions also have an opacifier incorporated, the nature of which are kept as trade secrets. The future of the home permanent wave seems rather secure at this writing. Its position can only be challenged by the beauty shop, and it does not seem possible for the beauty shop to reduce its price for its service, which is probably more desirable, to a point where it could challenge the sales of the wave solutions to the home.

Another development for use on the hair came as a result of the popularity of the permanent wave, and is used also in conjunction with the shampoo. The hair after such treatment frequently feels harsh and is difficult to control. The hair rinse is now being used to correct this difficulty. It consists essentially of a quaternary ammonium salt or other cationic active agent having incorporated into its molecule a relatively long chained alcohol or fatty acid. By treating the hair with such a preparation it is possible to cause an almost monomolecular film of the active ingredient to coat the shaft and therefore alloy the effects of frizziness. The addition of the film would also cause the hair to possess a better body and therefore be more easily manageable. If the preparation containing this type of hair conditioner is fixed at an acid pH, it will serve in addition to remove any deposited calcium film and therefore cause the sheen to be enhanced.

Its use is recommended immediately after the oxidizing solution has been rinsed off the hair and it is further recommended that it be allowed to remain in contact with the hair for at least five minutes before being removed by further rinsing. Several of these preparations contain oxidizers in addition so that they can further carry out the function of the so-called neutralizer, had it previously been incomplete.

(*Continued on page 716*)

PATENTS ON DOOM

By ERWIN DI CYAN, Ph.D.* and JOHN H. GLACCUM, LL.B.**

DR. ERWIN DI CYAN

MEDICINAL patents as compositions of matter form an important proportion of issued patents. In many instances, medicinal patents do not differ from the customs and practices in connection with the issue of letters patent covering other commodities. But in certain important directions, medicinal patents as a class are unique, and differ in concept, mechanism and application from patents covering devices, methods, processes or compositions of matter covering non-medicinal items. Generally, patents (and this is not limited to medicinal patents) are restrictive and not permissive devices. They are a means to prevent or inhibit others from practicing or using an art which the patentee wishes to practice himself.

Patents have added almost immeasurably to the advance of the arts and sciences, and have recorded technological advances for posterity. For example, the preparations of colors used by the painters of the Middle Ages may not have become one of the lost arts, had an equitable system, secured to the inventor the rights to protect his invention, and restricted others from adopting his discovery as their own. Under the U. S. patent system, such a reward is the monopoly given to the inventor for a limited period of time, to practice and utilize the invention disclosed in his patent, but particularly to prevent others from practicing or utilizing it for the statutory period of monopoly.

We contend that the task of utilizing an invention in the realm of medicinal chemistry begins with the granting of letters patent. We say so quite candidly, on the assumption that an inventor applies for a patent, because he expects real or fancied returns including royalties, prestige, glory, position, or a lift to his ego. Let us not take for granted that ownership of a patent is synonymous with the advantages to be derived from a patent. We are all more or less aware that invention is the sine qua non to a patent. The term invention is fodder for semantics and it can be variously understood and defined. It would be difficult, if not impossible to define the term invention which will suit adequately all usages to which the term is likely to be applied. For our immediate purposes, we prefer to define invention (and, we are not at all sure that we are right) as the concept and practical execution of an idea which is useful, novel, not commonplace and unexpected. Such a definition rules out, of course, the results expected by an average practitioner in the normal practice of his art. Whether the flash of genius doctrine should be applied as a yardstick to every invention, is not a matter of our decision, but it would appear, that that criterion is unduly limiting.

There has been recently noted a disquieting tendency in medicinal patents that is disturbing. This trend, when examined from a long range view, may doom the importance of medicinal patents, and their role in the advance of technology. It is represented by patent applications on compositions of matter or methods, having little invention, little advantage over the known art, little novelty and

* Di Cyan & Brown, Consulting Chemists, New York.
**Munn, Liddy & Glaccum, Patent Attorneys, New York.
Presented by Dr. Di Cyan, at the American Chemical Soc. (Div. of Medicinal Chemistry), Annual Meeting, Sept. 20, 1949, Atlantic City, N. J.

little utility. Strangely enough, in many instances, they represent the old and prior art. And, inexplicably, many of them become issued patents. Such patents, which we call "patents on doom," may doom the functional level of discovery and invention of medicinal patents. When such patents are subjected to a legal contest in infringement proceedings, they are almost invariably held invalid by the courts. The issue of a patent engenders a feeling of security on the part of the inventor or assignee. The issue of an opinion by the courts holding the contested patent invalid, engenders a feeling of disappointment. Both inventor and assignee blame the patent system, not their indefensible patent. After a number of such disappointments, they "go underground," and return to the secret practices of even worthwhile developments. They have entered the era of the "lost arts." By extension, such developments, may discredit the patent system. It is reasonable to suppose that the patent system should not be weakened by the practice of those who profit by it. It may be weakened or strengthened, according to the mode by which it is practiced. Patents are customarily issued on methods, devices, compositions of matter, and applications of principles, or substances which are unique, useful, and novel, and are of particular ingeniousness, but which are not the result of the usual competence as expected in the normal practice of an art.

Formulas and prescriptions as such, are not ordinarily subject to the protection of the patent laws, and no combination of ingredients is ordinarily patentable, where the ingredients perform their known function, even though the combination may function far better in degree, but not in kind.

The courts have furthermore been rather strict in their interpretations in recent years and have looked with disfavor on patents which attempt to cover the discovery of a natural reaction. For example, the Steenbock patent on vitamin D_1 was held invalid, and in holding invalid a product patent for an inoculant to increase the nitrogen fixing efficiency of leguminous plants, the Supreme Court in its opinion stated[2]:

> "The application of this newly-discovered natural principle to the problem of packaging of inoculants may well have been an important commercial advance. But once nature's secret of the non-inhibitive quality of certain strains of the species of Rhizobium was discovered, the state of the art made the production of a mixed inoculant a simple step. Even though it may have been the product of skill, it certainly was not the product of invention. There is no way in which we could call it such unless we borrowed invention from the discovery of the natural principle itself. That is to say, there is no invention here unless the discovery that certain strains of the several species of these bacteria are non-inhibitive and may thus be safely mixed is invention. But we cannot so hold without allowing a patent to issue on one of the ancient secrets of nature now disclosed. All that remains, therefore, are advantages of the mixed inoculants themselves. They are not enough."

While in this specific instance, the court was not dealing with a medicinal patent the language quoted would be equally applicable in such a situation. Similarly, the courts have held that a known composition used medically to treat a specific ailment is not patentable. To refer to a specific case[3], an applicant for a patent discovered that a composition, which was a condensation product of metacresolsulfonic acid condensed through an aldehyde, was useful for the treatment of diseased

(Continued on page 718)

DEVELOPMENT OF FLAVORS

By DAVID E. LAKRITZ

Chief Chemist, Florasynth Laboratories, Inc.

ILLUSTRATION—BETTMANN ARCHIVE

WE HAVE been taught, after the pattern set by text books, that there are seven major categories of food factors, namely:—proteins, which contain sufficient amounts of the essential amino acids, which are necessary for growth and repair; carbohydrates which are necessary for calorific value; fats, which provide both energy and have other functions; vitamins, particularly those required for human nutrition; vitagens, which comprise the groups of accessory food factors not noted in the preceding groups; minerals, of which adequate amounts in the proper ratio are required; air and water in pure and adequate amounts.

Given each of these factors in full measure, even including unknown factors, some test animals are capable of maintaining sustained growth. Such a diet is, however, still not suitable for the growth and well-being of human beings for in addition to the adequacy of the diet with respect to the major food factors, another and wholly different factor must be present. That factor is palatability.

Undoubtedly acceptable flavor plays a significant and major role in making foods palatable. This fact is readily apparent and can easily be illustrated for each

major food category. For instance, we know that proteins consist of amino acids, but a mixture of amino acids equivalent in food value to a given amount of protein is wholly unpalatable and actually nauseating. Even in glutamic acid, whose monosodium salt plays such an important part in flavor technology, we have an amino acid which in pure form can cause emesis. Fats like butter when pure and wholesome are palatable to most people, but some of the constituent acids, namely, butyric, caproic, caprylic and capric, have markedly unpleasant odors and are unacceptable in quantities equivalent to those which occur in butter. Sugars and starches are necessary to supply fuel for the body, but we have all tasted products which were too sweet, and starch can be so devoid of taste or flavor as to be distasteful. Thus it can be seen that more is needed than mere quantity of essential food factors.

What then is this factor we have stressed, this factor of flavor? It is not a simple sensation. It is not to be confused with the term "taste." Taste and smell are chemical senses from the physiological point of view. There are four fundamental tastes, salty, sour or acid, bitter, and sweet. This is the generally accepted point of view. Some physiologists postulate the existence of other fundamental tastes such as the meaty taste and the pungent taste and also such auxiliary tastes as the astringent and the metallic. Odors cannot be placed into simple categories as has been done with taste sensations, although there have been such attempts.

Flavor is a composite sensation, for it consists of about five different sensations. These are, possibly in the order of their importance, true taste or the sapid sensation of a given material on the taste cells; smell or the effect on the olfactory nerves; temperature or the effect of warmth or cold on certain cells; tactile sensation produced by contact with the walls of the mouth; and the kinesthetic sensation or the sense of using the muscles as in chewing. One may even include another sensation in the composite we call flavor and that is the sense of satisfaction given by certain foods and flavors.

The composite sensation of flavor can be well illustrated by the example of a vanilla-fudge ice cream soda. The major taste sensation is that of the sweetness of the sugar although a number of other substances play a part such as the slight acidity of the milk and the carbonated water. The sensation of smell is called into play through the aroma of the vanilla and the other flavoring compounds present. The temperature sensation is evoked by the below-freezing temperature of the ice cream. The tactile sensation is affected by the smooth texture of the ice cream as it comes in contact with the tongue and the tickling sensation produced by the impingement of the bubbles of carbon dioxide against the walls of the mouth as they are released from the carbonated water of the ice cream. The kinesthetic sensation is called into play by the chewing of the fudge requiring actual muscular effort in the mouth. Finally, one may say the sensation of satisfaction is caused by the flavor itself.

Classification of Flavors

In order to have an adequate appreciation of the development of flavors, it is necessary to have some classification. It is neither useful nor necessary to have a rigid classification. One could, of course, simply place all flavors into two large groups—the natural flavors and synthetic flavors, but such a classification is too limited. It is preferable to classify them as follows:

1. Flavors of plant origin—a large group comprising spices and herbs which in turn are derived from the fruits, buds, seeds, leaves, flowers, stems, bark, wood, and roots of various plants.

2. Processed Flavors of plant origin—a large group of flavoring ingredients consisting of materials prepared or separated from naturally occurring sources; for instance, essential oils, concentrated fruit flavors, flavor extracts, vinegar, sugars and syrups.

3. Purified organic flavoring materials—a small number of few substances isolated from natural sources with considerable processing; namely, the sugars and monosodium glutamate.

4. Isolates—organic flavoring substances which are isolated from naturally occurring flavoring materials. Among the principal representatives of this group are anethol, menthol, citral, eugenol, safrole and others.

5. Semisynthetics—flavoring substances prepared by synthetic methods but using isolates like the former group as the starting material. Vanillin from Eugenol is a typical example.

6-a Synthetics (corresponding to natural substances)—a group of flavoring materials which are prepared by so-called real synthetic methods; that is, use is made of simple organic compounds which are chemically identical with certain natural flavoring substances. Some of these are such compounds as methyl salicylate, allyl isothiocyanate, cinnamic aldehyde, diacetyl, coumarin, and vanillin from quaiscol.

6-b Synthetics—another group of synthetic flavoring compounds, generally of vast flavoring power, which do not occur to any significant extent as natural flavoring materials. Among these are a host of esters and such compounds as -undecalactone, -nonyl lactone, and ethyl methylphenylglycidate.

7. Inorganic flavoring materials or condiments—the principal inorganic flavoring material is salt, that is, sodium chloride. It is not the only inorganic compound used for such purposes since both nitrates and nitrites are widely used as condiments in the smoking of meat and fish. Here these materials not only preserve the red color but also give the meat a flavor.

Flavoring in Ancient Times

The origin of the use of flavoring materials for foods is lost in antiquity, and is very likely closely associated with theological and pharmaceutical uses. There are many references to the use of spices in the Bible. The ancient Egyptians used spices and garlic in their foods and, being versed in the science and art of fermentation,

(*Continued on page 720*)

25 YEARS OF GIVAUDAN-DELAWANNA

a Landmark in the American Aromatics Industry

IT HAS frequently been noted, and rightly so, that the period of time that elapsed between the first and second World Wars saw a growth of the American chemical industry far greater than the development of American industry generally. To this one can add a more specific word of elaboration, that no section of the chemical industry, save possibly dyestuffs, arose from infancy and discarded so completely the shackles that bound it to foreign dependency, to as great an extent as did the producers of synthetic perfume materials. Yet, it is significant to consider that the company that made a foremost contribution toward establishing a domestic aromatic chemical industry was itself born and sponsored from foreign soil; its development, and hence that of the industry, made possible by European initiative, investment, experience, research, imagination, and knowledge.

It is twenty-five years since Givaudan-Delawanna was founded in this country, approximately three decades after its associates, L. Givaudan & Cie. had been established in Geneva, Switzerland. Previous to 1924, the perfume and cosmetic manufacturers of this country had looked for their aromatic materials primarily to Europe, or to a few rather small American laboratories and factories that were producing, in quantities quite unimpressive, a few products whose qualities left much to be desired. The pioneers are not to be dismissed; they struggled against prejudice from all sides; their trail-blazing had not been in vain, but the trails themselves were hardly noticeable.

By 1924, the prices quoted for aromatic chemicals had receded from the fantastic levels of World War I, when our foreign sources of supply were difficult to reach, but synthetics in the post-war years continued to sell at prices many times higher than those we are accustomed to paying today. This steady decline is all the more remarkable in view of the inflationary direction of labor, equipment, and other factors that influence the cost of production.

But before we go into prices, let us take a look at production figures themselves. The manufacture of synthetic aromatic chemicals in 1923 was reported by the United States Tariff Commission with utmost enthusiasm. "The past year was probably one of the most successful that American manufacturers of these products have enjoyed. Progress has been made in overcoming the former prejudice against synthetic aromatic chemicals."

A couple of years later, specifically in 1927, the output of perfume materials of coal-tar origin was just a shade under two million pounds, and flavor chemicals not much greater, the latter consisting almost exclusively of methyl salicylate, with a small amount of coumarin.

Our most recent figures show that the American synthetic organic chemical industry is producing upward of twenty million pounds a year of flavor and perfume chemicals. One can almost pick a product at random and, if it was produced at all twenty-five years ago, it was in quantities that were pitifully small as compared with the figures of today. To cite a few examples that strike the eye, our most recent production of heliotropin is more than ten times the amount of 1923, and of ionones more than three times the former figure.

While building an important domestic industry, the producers of aromatic chemicals were able to bring their products to the perfume and cosmetic manufacturers at ever-lowering prices. A glance at the catalogues and market columns of a quarter century back shows indole at one hundred and fifty dollars a pound; today it is passing hands at a tenth of that figure. Phenyl ethyl alcohol was quoted at $8.50 per pound, with an extra premium for the imported quality; today a superior grade is available at two dollars or less. Methyl heptine carbonate was forty dollars a pound; musk ambrette had declined to a mere sixteen, after hitting the century mark during the war; there were musk ketone at twenty dollars, and Aldehyde C-16 at seventy.

What brought these and many other prices to constantly lower levels, at the same time as the qualities were being improved immeasurably? The new firms producing these chemicals were seeking broader outlets, creating new demand, and this in turn led to increased production. As it became possible to produce aromatic chemicals in greater quantities, the unit prices were able to be lowered, and these lower prices brought forward still greater demand. Here is a cycle which a few far-sighted individuals could envisage as far back as 1924.

Two of these individuals were the late Leon Givaudan and his brother Xavier, whose experience in the manufacture of synthetics abroad had led them to believe

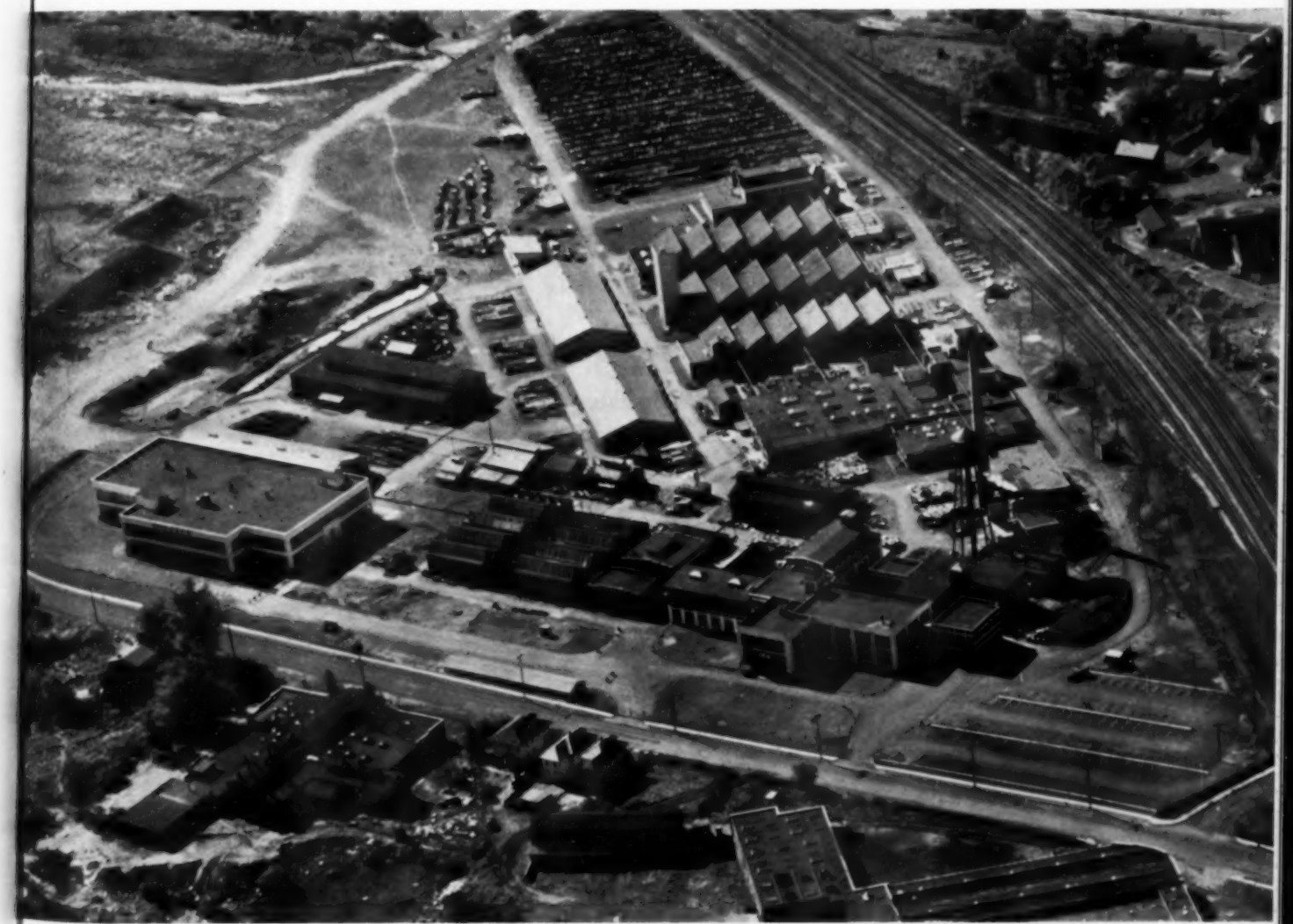
that a great market could be opened up in this country. Thus, when Givaudan-Delawanna was founded, it can be said that not a company but, in a sense, an industry was being born.

And what did the Givaudans bring to this country? Their experience in the development, manufacture, purification, and even use of aromatic materials; their knowledge of markets and sources of supply; their line of specialties which had already won acceptance in better perfume circles the world over; and particularly what has come in more recent years to be called, in business circles, the "know-how," a factor of unusual importance because of the intangible and often indescribable characteristics of products whose values are based upon olfactory judgments.

In addition to sending to this country samples, specifications, processes that had been painstakingly developed at great expense and written out in remarkable detail, the firm sent to its young affiliate many of its outstanding production chemists, men who had specific experience in the manufacture of the aromatic chemicals that were to become important products of domestic manufacture. Givaudan's top chemists and chemical engineers, men well-known in European chemical circles, came to this country to set up installations and establish and perfect processes with which they had gained an intimate experience in Geneva. It is this contribution of chemical research and know-how which is a major factor in the spectacular growth of the American aromatic chemical industry, making possible the achievement of chemical and olfactory standards which gradually came to equal those of Europe.

What of the consuming industries during these years? Is it not their growth that gave leadership to aromatics? It is true that the cosmetic industry itself mushroomed during the quarter of a century that we are now surveying. From a little over a hundred million dollars in 1923, the industry's sales rose to seven or eight times

(*Continued on page 724*)



Fine GLASS CONTAINERS
for Perfumes, Toiletries and Cosmetics

In an industry where so much emphasis is placed on attractive packaging, it is significant to find so many of the nation's best known cosmetic houses using Carr-Lowrey glass containers.

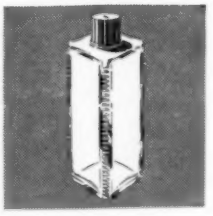
Carr-Lowrey has specialized in the manufacture of fine glass containers for cosmetic products since 1889. Our facilities include the most up-to-date high volume production equipment, as well as skilled craftsmen long experienced in the production of fine, handmade perfume bottles. It is this combination that assures a product made to the highest standards of glass manufacture and at prices that are commercially competitive.

Whatever your need, there is a Carr-Lowrey container that will give you complete satisfaction and in which you can merchandise your product with pride.

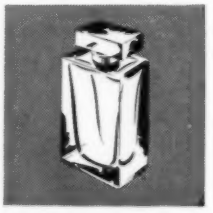
CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE 3, MD.

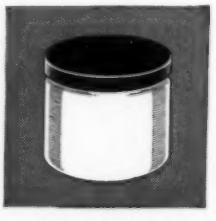
New York Office: 40 W. FORTIETH ST. • *Chicago Office:* 1502 MERCHANDISE MART



MACHINE MADE FLINT GLASS containers are immediately available in a wide variety of stock designs and sizes. We are also equipped to execute your private mold design in unlimited quantities.



HANDMADE GLASS containers by Carr-Lowrey are the last word in de luxe packaging for fine perfumes and toilet water. They can be produced from your private design . . . or you may make a selection from our standard line.



OPAL JARS. Carr-Lowrey opal jars are noted for their exceptional whiteness and opacity which makes them look particularly attractive on cosmetic counters.

PACKAGING AND SELLING

THIS AGE OF BUREAURACY

As every sales manager is becoming increasingly convinced, we are leaving the industrial age and entering the age of the Bureaucrat. Although Congress in making laws has had very little to say about the authority of government to dictate prices except in special fields such as public utilities, there is an inincreasing tendency of government bureaus to infringe on the rights of business to set a price upon its products. In addition, although most business men have been laboring under the delusion that they had a constitutional right to select their customers and to refuse to sell the goods to which they had title, on any basis that appeared to them sound, nevertheless bureaucratic thinking is already trying to infringe on this constitutional right to dispose of private property.

The Standard Oil Company of Indiana is bearing the full brunt of a Federal Trade Commission suit to determine whether a manufacturer has the right to defend his existence by meeting a competitive price situation. In this case the F. T. C. and Circuit Court of Appeals said that Standard Oil could not lower its prices to certain of its customers—even though this was done to prevent these customers from switching to another oil company which quoted lower prices—if the result was to injure some retail operators. This case arose because certain jobber customers to whom Standard Oil was compelled to slightly cut prices to meet competition, resold this oil to certain of their own filling stations and at a price which permitted these filling stations to under-sell certain independent filling stations.

This case seemed to involve a decision just about as difficult as the famous problem which was once posed to Solomon's judicial mind; in this case the government has joined with Standard in asking the Supreme Court to clarify the circumstances under which business men can reduce prices to meet competition. This is one case which will at least be decided on the basis of law by the Supreme Court.

It may be noted casually in passing that it is the Standard Oil of Indiana which is involved in this dispute. It is difficult not to be cynical and to suggest that a little company which simply does not have the money to wade through the costly routine of the Lower Courts, much less reaching up to the Supreme Court, would not have fared so well in this instance and would not have had at least a fighting chance of justifying their position that they can hardly stand by while a competitor cooly grabs off their customers. But there does seem to be a continual suggestion that small companies are pressured into agreements which may not be legal and which Bureaus knows perfectly well are not legal.

There is a small company in this industry with a gross business of somewhat less than $1,000,000 a year, doing business through approximately 1600 selected retail accounts, that is department stores, a few individual stores of chains and about 1000 independent drug stores. This company, after a very long and careful analysis of their post-war business status decided that they had opened up too many retail accounts during the war; that this had meant a certain slackening in cooperation that they were getting from the preferred retail accounts where most of the business in this class of product was being done. The conclusion that was arrived at, and very carefully arrived at, was that it would be to the best interest of this business to discontinue about 400 independent drug store accounts that were fringe accounts, that were not doing a very good job and on which little or no profit was being realized.

These accounts were notified in a very polite letter that after a certain date the company would no longer sell them merchandise. One of these drug stores registered a complaint on discrimination, or some such thing, with the local office of the Attorney General, and the head of this manufacturing company was called to the office of the Federal Attorney General. One of the individuals in this office told the manufacturer that this complaint had been received, cited the name of the drug store, and then said that he would not be allowed to discontinue the account and that he must reopen it immediately. When this particular executive of the manufacturing company, who was not quite as cowardly or as simple minded as small business men are supposed to be, asked this government official under what law this demand was based upon, the government official said to him, "Never mind the law. This is a directive by the Attorney General's Office." He then added in a rather abrupt way, "Don't be a damn fool and make a lot of trouble for yourself. Put this man back on your books and forget it." The business executive then stated that he had come totally unprepared and could he come back in a week fully prepared.

When he returned to his office he was delighted to discover that the particular drug store which had brought this whole thing to an issue had been a very bad source of credit trouble, that they were at the present time three months overdue with their payments and that two years ago the company had been compelled to give the account to a collection agency. When he returned to this government office he laid this information on the table, very much to the evident surprise and chagrin of the government official, who asked to be excused for a few minutes. He then returned to say, "This whole matter will be taken care of. You will receive a check from this drug store in tomorrow morning's mail. This clears that matter up so put him back on your list and don't make any more trouble."

The manufacturer left this government office with the blunt statement that he would not continue to sell this store, that he was eliminating four hundred other stores, that he would

stick to his constitutional right to select his customers, that he would abide by a Supreme Court Decision and that if any further action was to be taken the government should communicate with the company's attorney. This is where that particular matter stands now.

It would seem inconceivable, even in this bewildering age of bureaucracy, that government can so twist and distort the meaning and intent of Congress far beyond the wildest thought of even one Congressman, to declare that business cannot select its customers according to the policy or philosophy under which it conducts its distribution, and particularly after once having selected a customer that it must be committed forever to that customer even though the customer is lax in paying his bills or performs acts which may be of actual injury to the manufacturer.

We do not even like to think out a conclusion to this episode which would suggest that there is an undercover, if not deliverate pressure on small manufacturers who are sometimes compelled to accede to unfair and perhaps illegal actions simply because they do not have the money or the time or the courage or the ability to defend themselves.

Watch Suburban Retailing

Reports are coming in that the suburban units of department stores are running ahead of the main store in a way that is proving very startling to some department store executives.

Apparently the greatest center of retail activity of all kinds today is in suburban shopping centers, and it is not only these department store branches, but the development of various kinds of retail super-markets, and particularly the drive-in-and-shop centers that are the sign of this activity. In this latter type of market, which has proven to be a bonanza for many construction and finance companies in different parts of the country, the general pattern is that some 50 to 75 stores and shops are housed in a wide-windowed, one story building on either side of a long, landscaped mall.

On one end of the mall will be exhibition rooms, theater, bowling alley and other recreational facilities. At the other end, and dominating the whole project, is a large building housing a branch of some locally or nationally known department store. These shopping developments vary in character with the locality, but that is in general the pattern. Ample parking facilities are included and also facilities for dining. In some places provisions are made so that mothers can leave their children with nursing care, and a cocktail lounge and terrace is a frequent feature.

In one of the large New England developments Jordan Marsh Company, one of the big stores of the Allied Group, will be the major retailer at three projected Massachusetts centers. Several national chain stores will also participate.

Pensions

We read a statement awhile ago that impressed us as being an unusually thoughtful and wise analysis of the pension question that is causing so much trouble today in nation-wide strikes.

The writer of this editorial took the position that in the larger industries, which can sustain them, the pension system will be an inevitable part of our economy. He then went on to say that it makes little difference whether these pensions are contributory or non-contributory or whether labor participates in the payment, because as the pension system is established and as prices and production stabilize, labor will have to learn that they are paying for these pensions by the sacrifice of future wage increases which are not within the ability of the industry to pay.

As labor learns that they have a definite vested interest in the payment of a pension 20 or 30 years in the future, they will also become conscious of the meaning of inflation, of national solvency and of the financial integrity of their own business. This realization of the value of their pension will become an increasingly important incentive for work and will increasingly interest the worker in the factors which make his pension secure. This dawning realization that a pension is no better than the solvency of his company, and that it can be minimized or nearly wiped out by inflation resulting from bad fiscal policy will tend to be a strong stabilizing influence in this country.

March of Dimes

The world's largest "Dime Store" opened for business a few weeks ago in Houston. This is the newest and the largest of the 2770 stores of the international chain of Woolworth.

Over 40,000 different items are displayed in the store's 63,000 square feet of floor space with more than a mile of counters.

Wholesale Costs

The Survey of 1948 and 1947 Operations of Service Wholesale Druggists has just been published by the Statistical Section of the National Wholesale Druggists' Association.

This is a detailed, statistical analysis of the operations of wholesale druggists and is of interest not only to wholesalers but to supply manufacturers who use the wholesaler as an important part of their distributive machinery.

Using 1941 as a basis of 100 per cent for sales, the year 1948 stood at 204.4 per cent and 1947 at 192.3 per cent. Sales for 1948 were 6.3 per cent over 1947.

Operating cost of service wholesalers declined somewhat between 1941 and 1947, but in 1948 they were back at about pre-war percentages.

Bad debt losses—an important factor in profits—were abnormally low in 1947 and in 1948 being only 1/10 of 1 per cent of sales in contrast to 6/10 of 1 per cent in 1938: a decrease in bad debt losses of 83 per cent.

Investment for each $1,000 in annual sales was $269.00 for 1948 and $279.00 for 1947. In 1941 the average investment of the industry for $1,000 in sales was $367.00.

Because of increased volume the industry was able to stabilize many rising costs in terms of percentage of sales. However, executive salaries decreased by 40 per cent to 0.6 per cent of net sales, but three other expenses have been growing to a point where they imperil wholesale profits. These are selling expenses, warehouse employee wages and delivery and trucking expenses.

Selling expenses slowly decreased from 3.4 per cent in 1938 to 3.1 per cent in 1947, and then the following year rose sharply to 3.3 per cent. Of even more importance, warehouse employee wages have gradually risen 20 per cent and delivery and trucking expenses have increased 60 per cent since 1941.

The following figures make an interesting comparison in any business. They are the sales per employee in different classifications of employers.

	Sales Per Outside Salesmen		*Sales Per Executive and All Office Employees*		*Sales Per Warehouse Employee*		*Sales Per Executive Office and Warehouse Employee*	
	1948	1947	1948	1947	1948	1947	1948	1947
National	$269,000	$272,000	$107,000	$106,000	$92,000	$84,000	$49,000	$47,000

Everyone a Demonstrator

Recently the head of a very large department store was talking to the president of one of the leading cosmetic manufacturers. The department store head had just posed the question, "What can we do to increase the over-all sales of perfumes and cosmetics in our store?"

Probably if this question had been handed to 50 different men in this industry, each one the head of a cosmetic or perfume company, this department store man would have received 50 different answers. We can imagine one of the cosmetic or perfume manufacturers pointing to the mess which leading stores have made of their cosmetic advertising, the way in which they distorted the copy and the sales appeal and the illustrations which have been carefully thought out by the manufacturer.

Another may have criticized the complete or partial lack of any plan to educate and alert their department and even their store when advertising and a promotion plan is due to break. Still another might criticize the almost hopeless mess to which cooperative advertising has fallen, where for one thing the store will often give the good turn-over product silent treatment because they do not come through with 100 per cent of the cost of the advertising, and sometimes pay them for plates and art work, and will devote large space to products with no tested sales record, simply because the manufacturer may pay all or even net the store a little profit on their advertising.

Another manufacturer may have criticized the confused layout in many departments and lack of segregation which makes for customer convenience. Still another would criticize and suggest that the store re-examine its entire sales training and morale program for the girls behind the counter. There are many ways in which manufacturers feel that the larger stores are really falling down in selling perfumes and cosmetics and are so tied-up with deals, traditions and in some cases with lack of alert, intelligent personnel that a book could hardly cover this subject.

However, this one head of a cosmetic company did come up with an original answer which could certainly be easily applied, which is logical and which need not offend the pride and conceit of any store owner. His answer was why don't you first make your own employees in your store perfume and cosmetic conscious; not just the girls in the cosmetic department, but the girls behind the counters throughout the store, the girls in the offices and in the stock-room. This manufacturer said; "how do you expect to build a reputation for cosmetics in your city if a considerable number of the girls throughout your store do not use cosmetics properly, show no appreciation for them, and in some cases in their habits and personal appearance may even be derogatory to the suggestion of properly using cosmetics."

This may not be a thought which will revolutionize the retailing of perfumes and cosmetics, but it is a thoroughly sound thought and it is basic to the selling of a product. There is something fundamentally sound in the conception that every women employed by a large retail store should be a demonstrator in appearance as well as in words of the products that store has for sale.

Fair Trade

Fair Trade is in for a long and serious fight. Fair Trade advocates feel that they are on the defensive for the first time since 1931 when California blazed the trail for this form of trade-mark protection.

One of the groups which will lead the counter attack is the retail druggists and this part of the trade has already raised $100,000 and has set an objective of $300,000 for a three-year nation wide educational campaign. This campaign is backed by an organization called the Bureau of Education on Fair Trade with John W. Dargaval, executive secretary of the National Association of Retail Druggists, as chairman.

A three-month test drive is now getting under way in the Woonsocket—Providence-Pawtucket section of Rhode Island, as an experimental laboratory to test procedure in the national operation.

Drugs and cosmetics have been the biggest factors in Fair Trade. There is no reliable estimate on what part of the total retail trade is now "Fair Traded." One estimate is that over $5,000,000,000 of retail sales this year will be handled under Fair Trade. This is only 4 per cent of the total $18,000,000,000 expected in 1949.

80 Potent Men

A few years ago we used to hear a great deal about the 100 families who ruled America, or the 60 or 80 men who ruled industry and so on. It became popular and quite exciting to discover that there were such things as leadership and that a comparatively few men in the course of human events rise to a point where they can find room in the limited area of the top-most pinnacle of human success. Perhaps it would have been more interesting, if not exciting, to discover that 60 or 80 men of no particular eminence or fame really are beginning to rule American business insofar as top policy decisions which influence our economic health go.

For instance, during the last year business men in general have been very bitter in regard to the policy of retail buyers. They have stated with vehemence and truth that retail buyers withdrew from the market and let inventories decline below the point at which they could give customer satisfaction.

Some of the better informed business men have been inclined to defend the poor buyer by pointing out what is exactly the truth, which is that in taking this extremely restrictive attitude the buyer has been only following strict orders from upstairs, that is from his merchandising manager, via the comptroller and the general manager.

Beginning in the middle of August a significant change in buying policy took place, and a casual observer could not help but notice the uniform way in which large retailers rushed into the market almost as if the pressure of one finger on a single trigger had released this impulse. Of course, there isn't one single finger, but there is a growing reason to suspect that almost a handful of men, whose names are rarely mentioned, are pulling the trigger not only for business but for the policy of labor unions and for the policy of government, insofar as they affect business. These men who have acquired such potent policy over American business are the economists employed by a few leading industries and retail organizations, employed by the major unions and by the government, or acting in a consulting capacity.

There are very few who have attained the key position where their opinions can have a vast influence on business policy, such as buying, inventory, capital investment, in construction and new equipment and in other ways which mean a dynamic forward movement of business or a cautious retreat. But there are such men and they are beginning to wield an enormous influence on our economic life.

Coty's business, which certainly provides an excellent index of cosmetic sales, showed an excellent increase in July, August and September, according to Phillip Cortney, president.

Two-thirds of the company's total volume, according to Mr. Cortney, is done in the second half of the year. Because distribution costs are high in

CHECK-LIST FOR DRUG, PROPRIETARY AND CHEMICAL MANUFACTURERS! Continental makes a wide and complete assortment of cans for everything from pills to powders. If your packaging problem is one of size, shape, type of closure, special protection or merchandising appeal, chances are we have just the container you need.

CHECK with CONTINENTAL

IT COSTS NOTHING TO TALK THINGS OVER AND . . .

We would like to see if, because of our size and flexibility, we could assure you of a more dependable supply . . . **Check?**

. . . or suggest improvements for your lithographed designs . . . . . **Check?**

. . . or give you better service . . **Check?**

. . . or help you overcome a research or product development problem . **Check?**

So, why not "Check with Continental" today? . . . . . **Check?**

CONTINENTAL CAN COMPANY

100 EAST 42nd STREET, NEW YORK 17, N. Y.

relation to the business done in the first six months of the year, the first half of the year, he said, usually makes a poor showing.

This seasonal unbalance of sales, together with the need for maintaining a fixed overhead in distribution cost, has always been one of the difficult problems of the entire perfume and cosmetic industry.

Super-Service

Self-service food stores have reached a new peak in popularity during this last year, attracting 82.4 per cent of the families in their vicinity, according to a study made by the Dell Modern Group.

In 1946 the percentage of trading families was 70.9 per cent and in 1944, 64.4 per cent.

Tastes Differ

Candy eating habits vary widely over the United States according to the Department of Commerce. According to figures recently issued, Utah is the leading candy-eating state with an average consumption of 34.5 pounds per person. Mississippi is at the bottom of the list with 11.3 pounds.

This is in contrast to our own figures of cosmetic consumption based upon excise tax figures. Here we find that average consumption of cosmetics by female white population in dollars is $2.98 for Utah and $4.41 for Mississippi.

More Women Bosses

Retailing is proving to be a steadily expanding field of opportunity for women in business. According to research of the New York University School of Retailing in a survey of 119 leading department and specialty stores, 43 per cent of the executive posts in today's typical store are held by women.

The two top executive classifications in which women hold new positions are general manager and general merchandise manager. They hold less than five per cent of the posts of store manager, comptroller, president, treasurer and display manager. However, they do hold a majority of positions in three of the five executive classifications. And in these stores surveyed, 30 women are heads of major operating divisions in stores. It is in the merchandise division that the women executive predominates.

Men Only

Probably if someone made a survey of the marketing methods used for perfumery, he would find an example somewhere of every single formula and method known to the science of marketing. It is among the smaller, little-known companies that the ingenious, unusual, bizarre and sometimes amusing sales plan emerges.

We were interested to receive awhile ago a circular from F. R. Tripler & Co. of New York City announcing a perfume which "under no circumstances can a woman buy it." Men are given the assurance that this perfume, once it is presented to the lady and once she becomes an addict, she must rely solely upon him to pursue this habit. Of course some wolf may take advantage of this situation. But Tripler at least gives their customer a good headstart.

Drug Store Sales

Independent drug stores account for 74 per cent of the nation's drug store sales. This statement was buried in the recent report of the Federal Trade Commission criticizing fair trade in a way in which a former member of their own legal staff declared at the National Wholesale Druggists Association, "was rationalizing their pre-conceived bias."

Robinson-Patman Again

Many lawyers have described the Robinson-Patman Act as a "bad dream."

According to Robert P. Stern, special assistant to the Attorney General, in a recent convention speech, some legal experts consider that the Robinson-Patman Act as written "concealed a law suit in every word."

Merchandising Raids

Quoting the president of the Schulte Cigar Store chain, Business Week recently pointed out that fifty per cent of the stores' customers are women. As a result, the stores plan to add women's hosiery, cosmetics, jewelry, handbags, and similar items, to their sales list. The president explains that his policy is to carry good—though not expensive—merchandise which the customer will buy without undue deliberation.

In the same article Victor Lebow, who recently spoke at an FWDA meeting, was quoted on the subject of varying mark-ups in different types of stores. A pair of nylon hoisery, for example, with a wholesale price of 50 cents, would have to be sold at the following prices, depending on the mark-up established in each particular store: Florist's shop, $1.23; Bakery shop, $1.12; jeweler's, $1.01; fur shop, $1.00; radio store, 92 cents, furniture store, 89 cents; gift shop, 88 cents; department store, 79 cents; variety store, 74 cents, drug store, 73 cents; filling station, 67 cents; grocery store, 62 cents; and the combined grocery and filling station, 61 cents. The author of the article concludes that this procedure begun by the cigar stores is a formula "by which one type of distributor can raid the fastest moving, biggest traffic building item of another."

The National Retail Drygoods Association feels too little consideration is being given to the question of costs which arise from handling particular lines of merchandise. If the grocery store, for example, should reach the point where it does a large proportion of its business in hosiery, the Association believes, its costs would perhaps cease to be those of a grocery store. The florist shop, in a similar manner, would be able to reduce its costs to a point where no mark-up would be required, at least on hosiery.

The general concensus is that these "raids" on department stores and women's specialty shops by cigar stores and others should be investigated, and an effort made to discourage them.

Department of Commerce Monthly Retail Trade Report

Retail sales of all kinds in drug and department stores showing sales for the month of September 1949 as compared with the same period on 1948.

	Department Stores	*Drug Stores*		*Department Stores*	*Drug Stores*
Atlanta	–8	–5	Minneapolis	+5	–4
Baltimore	–9	–8	Milwaukee	–1	0
Birmingham	–11	–2	Newark	–4	–10
Boston	–3	–2	New York	–6	–1
Chicago	–3	–1	Philadelphia	–6	0
Cincinnati	–13	–6	Pittsburgh	–12	–4
Cleveland	–10	–9	Providence	–10	–2
Dallas	–1	+3	St. Louis	–9	–4
Detroit	–2	+1	San Francisco	–2	–11
Los Angeles	–15	–7	Seattle	–11	+1

New Products and New Packages

A B B O T T LABORATORIES has combined Thenylene Hydrochloride and ephedrine hydrochloride in tablets to be marketed under the name "Thenylfred." This product is indicated for the symptomatic relief in allergic conditions including hay fever, vasomotor rhinitis, urticaria and asthma. Another Abbott development is Ointment, Crustalline Penicillin G Potassium, made with a petrolatum base which offers a medium for even dispersion of the drug over the infected area with slow liberation.

HARRIET HUBBARD AYER hand cream, rose scented, and pale pink in color, is a new protective lubrication designed to beautify the hands and to relieve the effects of chapping and cracking of the skin.

THE BIO-RAMO DRUG CO., INC. has announced the availability of multiple dose sterile vials of crystalline vitamin B_{12} under the name of "Claretin 12 Injection." This is not a concentrate, but a solution of the pure, crystalline compound of high potency.

BRISTOL LABORATORIES INC. presents "Mytinic" to replace "Vytinic" with a new formula containing double the iron content of the original product. Mytinic, the improved oral hematinic, is a palatable, clear, amber solution. Bristol's new "Cilloral" is a cherry flavored crystalline penicillin G potassium designed pediatric use. It is supplied in powder form to be dissolved in water.

CIBA PHARMACEUTICAL PRODDUCTS, INC., introduces a synergistic combination of an antihistiminic and a vasoconstrictor which is issued under the name "Antistine-Privine." This new nasal solution is designed to give relief of nasal congestion without danger of over-dosage from self-medication.

GEIGY COMPANY, Inc., announces that "Panparnit," a new synthetic drug for reduction of rigidity and tremor in Parkinsons Disease, is made available to the medical profession in tablets of 12.5 mg. and 50 mg.

IVES-CAMERON C O M P A N Y, INC., presents "Pabasyl Tablets," for treatment of rheumatoid arthritis and acute rheumatic fever, and as a prophylaxis of recurrent rheumatic fever, fibrositis, and gout.

PARKE, DAVIS & CO. offers "Penicillin S-R," procaine penicillin and buffered crystalline penicillin, in controlled crystal size, for use in all conditions where penicillin is indicated. Also Vitamin E Concentrate, Park-Davis, is supplied in soft gelatin capsules in two forms: "Mixed Tocopherols," and "Mixed Tocopheryl Acetates."

PUREX PRODUCTS, INC., introduces a new development in the ammonium ion field to help reduce tooth decay in the form of "Anti-Cay Ammoniated Wafers." These wafers contain all ingredients found in ammoniated powders, but are simply dissolved in the mouth like a mint after each meal.

KATHLEEN MARY QUINLAN, INC., has placed on the market a new package containing 16 ounces of "Pine Foaming Bath Oil." The dark green liquid is bottled in a special mold of clear glass and has a round gold metal cap. The cylindrical gold paper foil in which the container is wrapped is screened in red.

A. H. ROBINS COMPANY, INC., is promoting "Robitussin," a new cough syrup consisting of glyceryl guaiacolate and desoxyephedrine hydrochloride in a palatable aromatic syrup.

S C H E N L E Y LABORATORIES, INC., offers two new products designed primarily for pediatric use. "Penicillin Confets Schenley" are indicated for the oral treatment of infections caused by penicillin-sensitive organisms and for prophylaxis in rheumatic fever, tonsillectomies, tooth infections, pre- and postoperative conditions. "Soluble Crystalline Penicillin Tablets Schenley" are adaptable for general oral penicillin use where tablets are inconvenient, for aerosol inhalation and for sublingual administration.

SHARP & DOHME, INC., has announced the release of "Traindon" Elixir, a pleasantly flavored antispasmodic preparation for smooth muscle spasticity. Containing three belladonna alkaloids in balanced proportion and phenobarbitol, "Tranidon" serves the purpose of providing an antispasmodic agent and a sedative.

SMITH, KLINE & FRENCH LABORATORIES introduces "Nuclon" as a weapon against the common cold. This product contains three active ingredients: an antihistaminic; an anti-depressant; and analgesic-antipyretic.

E. R. SQUIBB & SONS has announced distribution of "Melactin," Squibb Protein-Vitamin Mixture, high protein food composed of natural milk protein and carbohydrate, with added vitamins. This pleasant tasting, bland powder mixes well with milk, water, cream soups, puddings and cereals.

STRONG COBB & CO., INC. presents "Ampins," an automatic injection unit, designed to administer penicillin G, fortified in oil, in dosage form containing, in one cc., 300,000 units of crystalline procaine penicillin G and 100,000 units of crystalline potassium penicillin G.

THE TRANSANDINO COMPANY (R. C. Gill Laboratory for Curare Research) announces a newly evolved, chemically pure d-Tubocurarine chloride which exhibits a high therapeutic ratio hitherto unachieved in the development of the drug.

TUSSY COSMETIQUES has added "Dry Skin Treatment Cream" to its extensive line of cosmetics. This cream contains an active blend of sterols which helps to maintain the natural oil balance of the skin.

THE UPJOHN COMPANY introduces "Somagen, Solubilized," a soluble, palatable whole protein preparation with the same formula as "Somagen, Granules." Another new Upjohn development, "Orthoxicol," has been announced. This cherry flavored liquid is designed to alleviate cough associated with the common cold, bronchitis, bronchial asthma, laryngitis and tracheitis.

WYETH, INC., is now marketing "Wyamine," a new agent for relief of nasal congestion possessing no stimulating properties in recommended dosage. Wyamine is presented in a plastic inhaler designed by OWENS-ILLINOIS GLASS COMPANY. Wyeth also has introduced "Basaljel®" (Basic Aluminum Carbonate Gel), a new form of alumina gel with high aluminum content and hence a high phosphorus-binding power.

For face creams, jar #AW-7159, 3-oz. size.
Note extra-wide mouth for easy filling, convenient use.

Functioneered Duraglas Rounds

. . . a natural for sales and production!

Sales managers want a low-cost container to help keep their product's selling price competitive . . . an attractive container that will appeal to women . . . transparency, so customers can *see* what they're buying.

Duraglas Rounds fill the bill.

Production managers want a sturdy container that can take the bumps and shocks of fast filling and capping . . . They want transparency too, so jars can be inspected *after* filling . . . and for extra protection, dependable tight-sealing closures.

Duraglas Rounds fill the bill again! Through research we learn the features and functions wanted by consumers, production men and salesmen. Then we functioneer a container to meet those needs.

That's why, whatever your product —*drug, chemical or toiletry*—among the more than 1400 stock Duraglas containers there is sure to be one that fills *your* bill. For prompt courteous service, call the Owens-Illinois branch office near you.

Duraglas Containers are Protectors of Quality

TRADE MARK REG. U.S. PAT. OFF.

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

Christmas Joy

CHRISTMAS PEACE

HAZEL-ATLAS GLASS COMPANY, WHEELING, W. VA.

These Container Ideas

appeal to the quality-conscious and cost watchers

There's no limit to imagination in the packaging business . . . but there's a definite limit on most people's purses.

So it's valuable to know of a container outfit with facilities to give you *something special* within commercial limits on cost.

Scovill offers you these things to help you solve problems of cost, sales appeal and merchandising. High-production machinery. A broad selection of containers and caps in plain and highly finished metals. A knack for engineering new container constructions and styles.

So take a good long look at the containers shown here (identified by letters in coupon). They'll give you some idea of what Scovill can do for you. Mail the coupon below, checking the item or items that are in your line, and we'll go to work for you. Send to: SCOVILL MANUFACTURING COMPANY, Drug and Cosmetic Container Division, Waterbury Conn.

Best selling brands in leading stores have

SCOVILL-MADE *Containers*

A PRODUCT OF SCOVILL

SCOVILL MANUFACTURING COMPANY
Drug and Cosmetic Container Division
63 Mill Street
Waterbury 91, Conn.

Please send full details concerning your design and manufacturing facilities. I am interested particularly in the production of

A ☐ Bail Band Assembly
B ☐ Snap Jar Cap
C ☐ Serum Clamp
D ☐ Perfume Bottle Holder
E ☐ Special Shape Perfume Bottle Cap
F ☐ Bobby Pin Holders
G ☐ Lotion Dispenser
H ☐ Lotion Pump

My problem is none of the above, but . . . . . .

. . . . . .

NAME . . . . . .

COMPANY . . . . . ZONE . . . . .

ADDRESS . . . . . CITY . . . . . STATE . . . . .

in good hands . . .

Only professional care gives full assurance—nothing less than unquestioned competence and the finest facilities will do.

Your product is your business baby, on which you have lavished years of tireless effort. For packing, you will of course place it in good hands—a packaging concern which has been accepted by others in your class for years—a concern which has a proven record of 30 years outstanding accomplishment, and physical facilities which are unequalled.

In sending your product to us for packaging, you avoid troublesome detail and expensive overhead—you provide for your product the finest pharmaceutical packaging available. Should your particular situation require special machines in your own plant, we shall be glad to discuss the installation problem with you. Your product packaged by us is in good hands.

Good Hands

- ✓ A 30 year record of accomplishment.
- ✓ 100,000 sq. ft. of light, hospital-clean space.
- ✓ Bonded ware-rooms — Packaging Laboratory.
- ✓ A Trained, uniformed personnel of 450.
- ✓ Sterilamp protection — Air-conditioned rooms.
- ✓ Daily capacity of 10,000,000 units.
- ✓ A convincing roster of users.

SANITAPE SEALTITE

IVERS-LEE COMPANY, NEWARK, NEW JERSEY

SAFEGUARD YOUR PRODUCTS
Ship in Anchorglass* Containers and Cartons

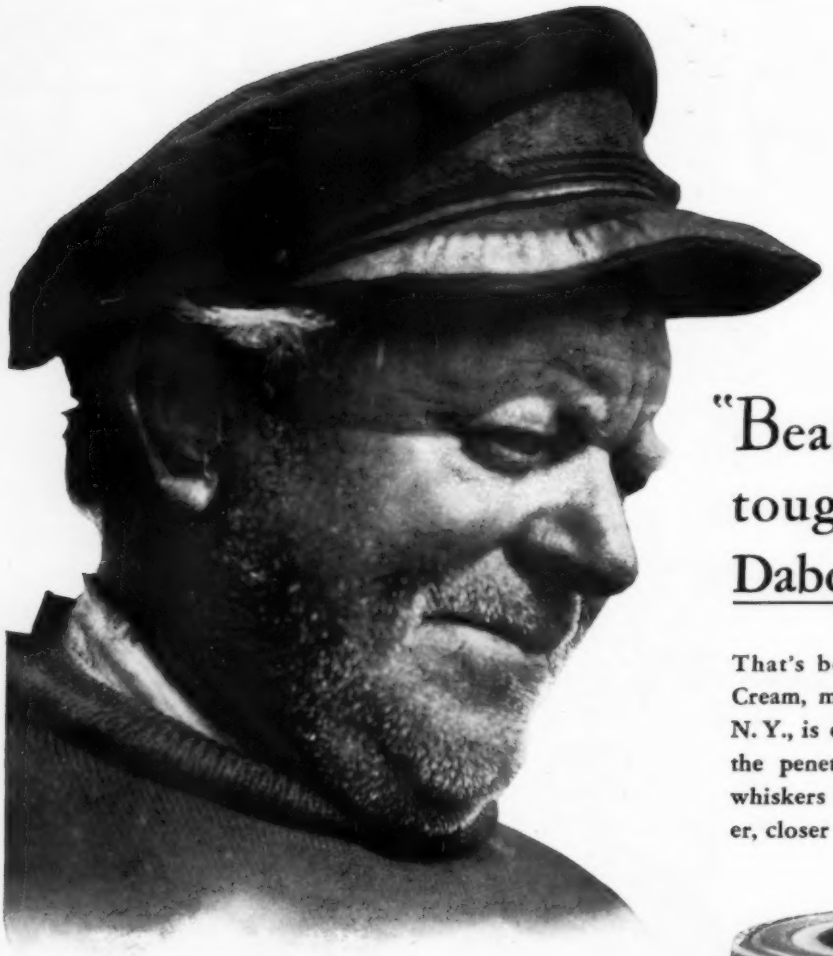
WE at Anchor Hocking have a keen appreciation of your shipping problems and a keen appreciation of the necessity for tough and durable glass containers and shipping cartons. As a result, every effort and skill is exerted to supply packaging materials which will provide thorough, dependable protection for your products after they leave your hands.

Anchorglass Containers are manufactured by glassmakers with many years of experience, and are backed by extensive quality controls. And, before cartons are fabricated, board samples are subjected to puncture, crush and bursting strength tests. Packed cartons are punished in drop, impact and revolving drum tests . . . all to predetermine safe delivery for your products.

May we send you samples for test purposes?

*Reg. U.S. Pat. Off.

ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio



"Beards don't come tough enough for Dabon . . ."

That's because Dabon Brushless Shave Cream, marketed by Cort-Livingston, Inc., N. Y., is emulsified with "Miracol." This is the penetrating beard softener that wets whiskers wetter than wet . . . for a smoother, closer shave.

And sealing jobs don't come too tough for Crown Closures. Crown can supply the right type of closure and the proper liner for any individual product. Remember, in Crown Closures you get exclusive features that no other closure can provide . . . features like the patented Deep Hook Thread and special cap liners that have been developed in Crown's own laboratories to meet specific sealing requirements.

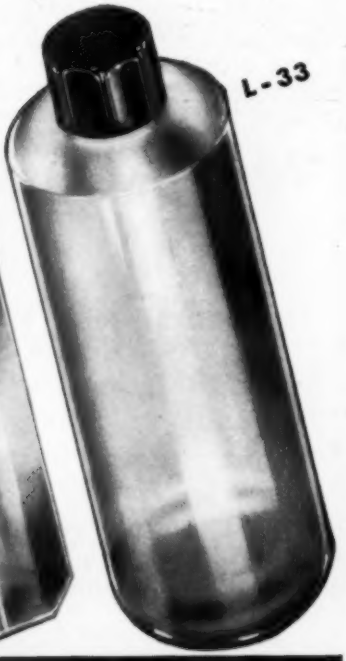
Another big plus feature is Crown's Consulting Service. This service is available without cost to all packers who use metal closures. If you have a sealing problem or would like suggestions as to the RIGHT closure and liner for your product, come to Crown. Crown Cork & Seal Company, Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by Millions of Housewives

Stock Bottles

that give your package
INDIVIDUALIZED DISTINCTION
-available in all popular sizes



Add glamor and distinction to your package, without the costly investment of special design, by selecting one of the many artistic Swindell stock bottles . . . The four bottles illustrated are representative of a wide variety available for your choice . . . in sizes ranging from 1/8 ounce to 16 ounces.

SWINDELL BROTHERS
BALTIMORE, MD.
200 Fifth Ave., New York - Roberto Ortiz, Havana, Cuba

When you think of bottles, think of

Swindell

GLASS CONTAINERS AND CLOSURES W. BRAUN Co.

302 NORTH CANAL STREET, CHICAGO 6 • 595 FIFTH AVENUE, NEW YORK 17

METAL CONTAINERS *and* CLOSURES
by
BRIDGEPORT

Vanities
Jar Caps
Bottle Caps
Drawn Talc Containers
Lipstick Containers --- Swivel, Slide, Automatic
Powder Boxes
Perfume Vial Cases and Caps
Lip Brushes
Dry and Paste Rouge Cases

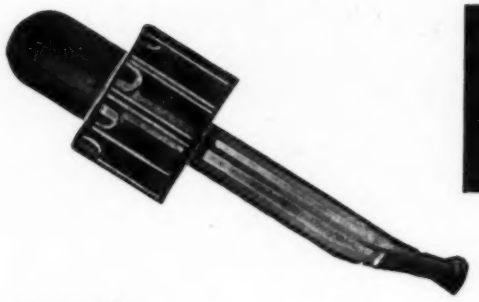
and

Other Special Metal Products for the Cosmetic Industry

THE BRIDGEPORT METAL GOODS MFG. CO.

Established in 1909

BRIDGEPORT CONNECTICUT



New Perfection

DROPPING PARTS

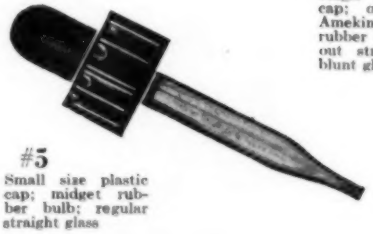
"Repeat-Sale Insurance" for Liquid Preparations

The New Perfection line of functionally designed dropping parts gives satisfaction where satisfaction counts—in the hands of the user. To make sure the customer's first reaction to your product is 100% favorable, specify New Perfection. Our rigid inspection system assures the cleanliness and uniform high quality of every shipment.

New Perfection dropping parts will fit your bottle or can be furnished in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Bottle sizes—2 cc, ⅛, ¼, ½, 1 and 2 oz.

#1
Non-rolling, extra-depth Bakelite Cap; thick flange rubber bulb; Saftee ball glass.

#3
Regular plastic cap; thin flange rubber bulb; semi-blunt glass.



#4
Single shell metal cap; oil-resisting Amekine synthetic rubber bulb (without strong odor); blunt glass.

#5
Small size plastic cap; midget rubber bulb; regular straight glass

NEW PERFECTION DROPPER GLASSES

CALIBRATED

IN COLOR

This inexpensive extra adds welcome convenience to the use of your product. Accurate calibration in any color marks the specific dosage indicated. Or, your firm name or trade-mark may be imprinted.

#2
Non-rolling, extra-depth Bakelite cap; thick flange rubber bulb; special bent glass (CALIBRATED IN COLOR).

Improved bottle shape. Designed to lie flat for convenient labeling. Front provides ample label space.

IN ADDITION TO NATURAL RUBBER BULBS FOR GENERAL USES

AMEKINE (OIL-RESISTING) Synthetic Rubber Bulbs

are recommended for use with oil preparations, such as nose and ear drops and vitamin products. Even after long exposure to oil, Amekine closely retains its original shape and functions perfectly.

PENNSYLVANIA
GLASS PRODUCTS CO. INC.

"Glass Goods of the Better Kind"

430 N. CRAIG ST. • PITTSBURGH (13), PA., U.S.A.

NEWS...

Sharp & Dohme Elects Officers

Henry W. Gadsden, director of pharmaceutical production and engineering, and W. W. Lauer, Jr., director of industrial relations, have been elected vice-presidents of Sharp & Dohme, Inc. by the board of directors. Mr. Gadsden joined the company in 1937 in the sales research department, while Mr. Lauer began his affiliation with Sharp & Dohme in 1942 in the industrial relations division.

HENRY W. GADSDEN

W. W. LAUER, JR.

Nopco Granted Patent License

Nopco Chemical Company, Harrison, N. J., has been granted a license for manufacturing vitamin D_3 under the patents of Philips Laboratories, Inc. The suit filed by Philips against Nopco in the U. S. District Court of the district of New Jersey for alleged infringement of patent No. 2,441,091 will be discontinued.

Pays Tribute to 25-year Men

The Carr-Lowrey Glass Company, Baltimore, recently held a recognition dinner in the banquet hall of the Southern Hotel honoring forty-seven employees who have been associated with the company twenty-five years or more. Of these, a few had retired several years ago.

Charles Vanskiver, the oldest employee in regard to length of service, began working for Carr-Lowrey, April 1, 1889, the day the company itself was founded. In addition to Mr. Vanskiver, each of the following employees received a gold watch in token of his faithful service.

John S. Nagel, 1889; Albert Ernst, 1892; Herman Ernst, 1892; George Zimmerman, 1895; Charles H. Schanfelter, 1896; George Bagot, 1898; Charles Hickman, 1899; Eugene Shiloh, 1900; George A. Minnick, 1900; John J. McLaughlin, 1901; Edward Vanskiver, 1902; William Miller, 1905; William L. Pindell, 1907; Edward A. Stapf, 1907; Philip Guy Lloyd, 1907; Frederick E. Polk, 1908; Wilbur L. Polk, 1908; Charles D. Polk, 1912; Ernest L. Polk, 1919; Valentine Hamer, 1910; Gilbert W. Reed, 1910; Albert C. Burgund, 1910; Clarence Simms, 1911; Paul J. Price, 1912; Earl D. Collins, 1913; Frederick C. Dolle, 1913; William I. Klebe, 1915; John A. Tucker, 1915; Daisy I. Smith, 1917; Edward R. Vanskiver, 1918; Jean W. Bicks, 1919; William Collins, 1920; William A. Woolford, 1920; Clifton J. Pardoe, 1920; Roland D. Leopold, 1920; Raymond Gross, 1921; Charles W. Davis, 1921; Charles B. Byrd, 1922; Adam V. Pfaff, 1923; William J. Heinegger, 1923; Raymond J. Kelly, 1923; Fannie I. Augustus, 1923; Roland Zimmerman, 1923; and Jesse C. Shaw, 1924.

Carl R. Hilgenberg, vice-president served as toastmaster, while George F. Lang, company president, presented the service awards.

Brown Named Sales Manager

Albert G. Brown was named sales manager of the Ernst Bischoff Company, Inc., according to H. G. Terwilliger, president.

Awarded 1950 Institute Medal

Dr. Walter J. Murphy, editor of three American Chemical Society publications, was chosen to receive the 1950 gold medal of the American Institute of Chemists in recognition of his outstanding contributions to the field of chemistry, according to Lawrence H. Flett, institute president. Dr. Murphy has been editor of Chemical and Engineering News, Industrial and Engineering Chemistry, and Analytical Chemistry since 1943.

Schering Appointments

The appointments of W. Alan Wright, M.D. and Norman L. Heminway, M.D. to the newly created positions of associate director of clinical research have been announced by Francis C. Brown, president of Schering Corporation. Dr.

DR. W. ALAN WRIGHT

DR. NORMAN L. HEMINWAY

Wright, who joined Schering's division of clinical research in 1946, is a member of the American Academy of Allergy and the Association for the Study of Internal Secretions. Dr. Heminway who joined Schering in 1945 to establish and direct the medical service department, now acts as associate director of clinical research. He is also administrative assistant to Dr. Edward Henderson, director of the department.

Sahyun Labs. Begin Research

Dr. Melville Sahyun, formerly vice-president and director of research of the Frederick Stearns and Co., division of Sterling Drug Inc., has announced the opening of Sahyun Laboratories at 316 Castillo Street, Sante Barbara, California. The laboratories are engaged in research in medicinal chemistry, nutrition, biochemistry and pharmaceutical products in general. Dr. Sahyun's chief assistant is Dr. Jack Faust.

Breuer to Represent Syntomatic

H. O. Breuer has been appointed representative for Syntomatic Corporation in Mexico and Central America.

H. O. BREUER

He will make his headquarters at Fernando De Croix No. 150, Lomas De Chapultepec, Mexico, D. F.

Ryan Takes Leave of Absence

R. W. Mattern, manager of the Armstrong Cork Company's glass and closure division office in Detroit, has been appointed Chicago district manager to replace T. J. Ryan who has taken an extended leave of absence because of ill health. Mr. Mattern will be replaced by A. M. Browne, manager of the Kansas City district office, which has been consolidated with the St. Louis sales district, under the direction of J. S. Taylor.

Named Chicago Representative

Miller Sales Company of Cincinnati has been appointed representative in Chicago and surrounding territory for Arthur Colton Company. The new Chicago office is at 201 N. Wells Street.

Pierson in Dow Post

Henry S. Pierson has been named manager of the Chicago sales office of Dow Chemical Co., succeeding Wilson I. Doan who will remain in the Chicago office as a consultant.

Packaging Institute Names Officers

The Packaging Machinery Manufacturers Institute held its seventeenth annual meeting at the Edgewater Beach Hotel, Chicago, from October 31 to November 2, during which time the following officers were elected for the coming year: as president, Wallace E. Coughlin, vice-president of Pneumatic Scale Corporation, Ltd.; vice-presidents, Boyd H. Redner, general manager of the Battle Creek Bread Wrapping Machine Company and Wilhelm B. Bronander, Jr., vice-president of Scandia Manufacturing Company. In addition, four new directors were elected by the membership and include Palmer J. Lathrop, president of Cameron Machine Company; Harry A. Miller, general manager, Burt Machine Company; Boyd H. Redner, general manager, Battle Creek Bread Wrapping Machine Company; and G. Radcliffe Stevens, president, Elgin Manufacturing Company.

Two meetings were announced for 1950, one being the semi-annual meeting in April at the Sheraton Hotel, Chicago, and the other, the 18th annual meeting of the Institute to be held at the Homestead, Hot Springs, Virginia, in September, 1950.

Returns From Mexico

Dr. Edwin L. Gustus, vice-president of Bjorksten Research Laboratories, recently returned from a trip to Mexico and Cuba.

Merck 25-Year Club Meets

The Merck Quarter Century Club, New York and Rahway chapters, held a tenth anniversary dinner meeting at the Winfield Scott Hotel, Elizabeth, on November tenth. George W. Merck, company president, and honorary president of the club, was the principal speaker. John H. Maget was elected president, succeeding Robert J. Strong, retired, while Lydia Rebenklau was named vice-president, and Walter L. Wilson, Sr., was re-elected secretary-treasurer.

Composed of employees who have been associated with Merck & Co., Inc. for at least twenty-five years, the club was founded in 1939 and now has a membership of 257.

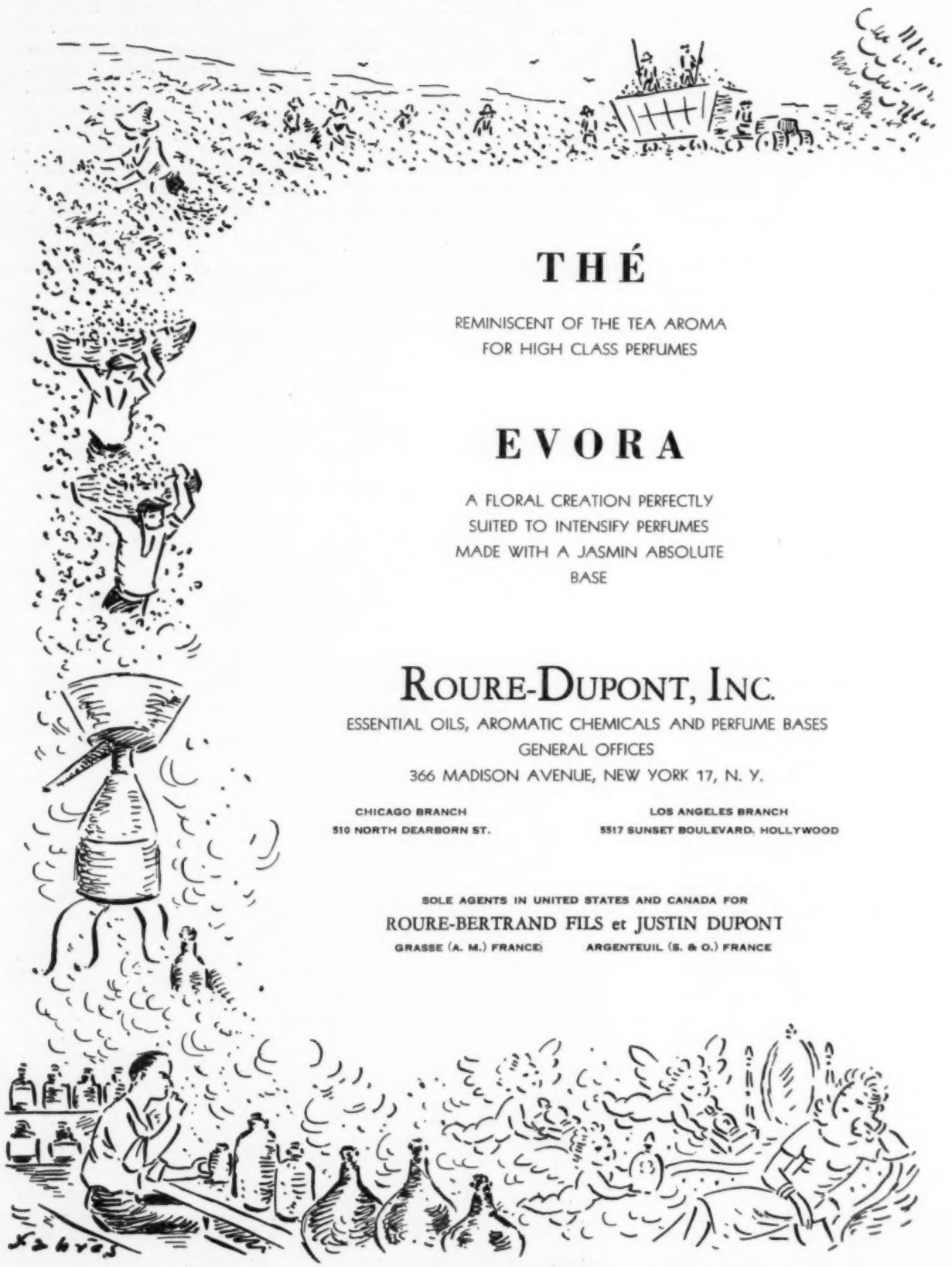
Accepts MRM Position

Samuel S. Smith has been appointed general manager of the liquid filling equipment division of MRM Company, Inc., according to Herman Manas, president.

Schering Adds 14 Representatives

Fourteen representatives have been added to Schering's professional service staff, according to Francis C. Brown, president. They recently completed an intensive five-week training course in scientific and technical fields and in professional service. The training was under the direction of Herman W. Leitzow, Schering domestic sales manager, and George C. Strayer, professional service manager.

Schering professional service representatives who have completed their training period at the Corporation's home office. In the back row, left to right, are Roy Wiese, Jr., Houston; Jess M. Robinson, Knoxville; Charles H. Fahrenholz, management research department; Eugene F. Madsen, Syracuse; Edward G. Schultz, Toledo; Edwin J. Mehring, Louisville; Elias R. Zehenni, Cincinnati; Ernest F. Scanlon, Denver; and William P. McDevitt, Los Angeles. Front row: Lawrence R. Shambach, Cleveland; Myron A. Levine, New York; Theodore J. Slyman, Columbus; James M. Stanton, St. Paul; John B. Romano, New York; and Donald D. Riddle, Orlando, Florida.



THÉ

REMINISCENT OF THE TEA AROMA
FOR HIGH CLASS PERFUMES

EVORA

A FLORAL CREATION PERFECTLY
SUITED TO INTENSIFY PERFUMES
MADE WITH A JASMIN ABSOLUTE
BASE

ROURE-DUPONT, INC.

ESSENTIAL OILS, AROMATIC CHEMICALS AND PERFUME BASES
GENERAL OFFICES
366 MADISON AVENUE, NEW YORK 17, N. Y.

CHICAGO BRANCH
510 NORTH DEARBORN ST.

LOS ANGELES BRANCH
5517 SUNSET BOULEVARD, HOLLYWOOD

SOLE AGENTS IN UNITED STATES AND CANADA FOR
ROURE-BERTRAND FILS et JUSTIN DUPONT
GRASSE (A. M.) FRANCE ARGENTEUIL (S. & O.) FRANCE

Starts Own Business

Clement J. Perreault, vice-president, sales manager, and director of the Westerfield Pharmacal Company, recently severed his connections with that concern and independently set up the Detroit Pharmacal Company at 5101 West Chicago Boulevard, Detroit.

Receives Sharp & Dohme Award

Dr. Wallace O. Fenn, professor of physiology at the University of Rochester, has been awarded the first Sharp & Dohme award of $1500, through the auspices of the American Physiological Society. The award was presented in recognition of Dr. Fenn's outstanding contributions to physiology. It will be used by Dr. Fenn to represent the Society at the eighteenth International Congress of Physiology in Copenhagen, Denmark in August, 1950, where he will present a paper on The Composition of Alveolar Air.

Sharp & Dohme Appointments

Dr. Richard H. Barnes, director of biochemical research at Sharp & Dohme, Inc., has been appointed to the recently created post of assistant director of research and will serve in both capacities simultaneously. Dr. Barnes will be assisted by Dr. Jesse W. Huff, biochemical research associate, who has been named assistant director of biochemical research, according to Dr. L. E. Arnow, research director.

DR. RICHARD H. BARNES

Appointed to Hirestra Labs.

Helen Madelon O'Brien was recently appointed the Educational Director of Hirestra Laboratories, Inc. and will lecture to various women's clubs and other organizations on beauty in general and on the use of hormone creams in detail.

Part-time portraitist, Harry C. Phibbs (left), founder and head of the Harry C. Phibbs advertising agency, presenting to George R. Flint, president of Flint, Eaton & Company, a portrait of Mr. Flint's father, J. K. Flint. Mr. Phibbs completed the picture a short time ago.

Elected to Merck Board

Dr. Vannevar Bush, president of the Carnegie Institution of Washington, D.C. and a director of the American Telephone and Telegraph Co., was elected a director of Merck & Co., Inc., at a meeting of the company's board of directors last month.

Bristol-Myers Appoints Allen

Joseph M. Allen has been appointed vice-president in charge of public relations of the Bristol-Myers Company, according to Lee H. Bristol, president. He was formerly vice-president in charge of advertising.

JOSEPH M. ALLEN

Abbott Opens Branch Office

Abbott Laboratories formally opened a new branch office and warehouse building last month at 1601 Dana Ave., Cincinnati. Harold Clauson is branch and division manager, while Bud Snead, formerly sales representative in Indianapolis, is office manager. The building is a one-story structure in modern factory style, containing 22,000 square feet.

Export Club Names Officers

Harold E. Mix, manager of credits, S. B. Penick & Company, was elected chairman of the Drug & Chemical Export Club of the Foreign Credit Interchange Bureau, at the Club's annual meeting in New York last month. At the same session, Edward J. Hoyt of the International Division of Vick Chemical Company was elected vice-chairman.

To Enlarge Antibiotic Facilities

Commercial Solvents Corporation is planning construction of a $670,000 plant at Terre Haute, Indiana, to increase its antibiotic production facilities. The new unit will consist of a fermentation and filtration unit and will be located near the company's penicillin plant.

Abbott Wins Four Medal Awards

Abbott Laboratories won four medal awards in the seventeenth annual exhibition of advertising art sponsored by the Art Directors Club of Chicago last month. The classifications included editorial design, direct mail, advertising art in color, and editorial photography. Bert Ray, art director of Abbott, received the awards, which were presented by Douglas Smith, Art Directors Club president.

Maltbie Chemical to Change Name

The Maltbie Chemical Company will change its corporate name to Maltbie Laboratories, Inc. on January first, 1950. Dr. L. H. Walter has been appointed director of research to succeed Dr. R. H. Barry, who resigned.

Van Ameringen Changes Address

Van Ameringen-Haebler, Inc. has just set up new quarters for its New York home offices and laboratories at 521 West 57th St. occupying an area of 35,000 square feet. In contrast to van Ameringen's former offices (located on Fourth Avenue) which were arranged on three separate floors, the new facilities are all on one level. They are arranged in such a manner as to expedite production flow and eliminate loss of time through interdepartmental travel and duplication of facilities. The perfumers' laboratories on the west side of the building, are equipped with individual stock supplies while odor-proof rooms are centrally situated for the convenience of the perfumers, control chemists, and visitors. The compounding department is divided into various units, each accommodating two chemists, and each having a special intermediate stock room, periodically replenished from the main stock supply.

All facilities are completely air conditioned by a master unit; each office, laboratory and production section is equipped with individual control. Except for the executive offices, the walls and ceilings have been painted in a special green color, intended to relieve eye strain. Transportation and trucking facilities are located on both the 57th Street 58th sides of the building.

This change in address does not affect the aromatic chemical plant and flavor departments, according to Mr. Van Ameringen, which will continue to operate in Elizabeth, N. J.

New Wirebound Box Booklet

A completely new booklet entitled "What to Expect from Wirebound Boxes and Crates" has just been published by the Wirebound Box Manufacturers Association, Chicago, for information and guidance of shippers and industrial packaging engineers. This booklet is a successor to "Your Product in Wirebounds," a new edition of which was issued just a year ago. The booklet covers such subjects as construction principles of wirebound shipping containers, the basic styles of wirebound boxes and crates, and the advantages of wirebound shipping containers to shippers, such as reduced storage space requirements before use, faster assembling, easier handling, lower initial cost, better stacking, and reduced container fare weight. Copies are available from the association at 105 LaSalle St., Chicago, 3.

P. A. Smith, works director of Burroughs Wellcome in Dartford, England, who recently visited the American company at Tuckahoe, N. Y. to study manufacturing methods.

Crowley Heads Alsop Corp.

Charles E. Crowley was recently elected president of the Alsop Engineering Corporation at a special meeting of the directors and succeeds the late Samuel Alsop, Sr., in that position.

SOCMA Elects 1950 Officers

The Synthetic Organic Chemical Manufacturers Association elected the following officers and board members for 1950 at the annual meeting in New York in December. As president, Sidney C. Moody, American Cyanamid Company; first vice-president, Wyly M. Billing, Hercules Powder Company; second vice-president, Eric C. Kunz, Givaudan Corporation; treasurer, Clayton S. Sheomaker, The Dow Chemical Company. Elected to the board of governors were Roger W. Hooker, Hooker Electrochemical Company and Victor E. Williams, Monsanto Chemical Company.

Sterling Purchases Puhl Products

Acquisition by Sterling Drug, Inc. of all the issued and outstanding stock of the John Puhl Products Co. in exchange for 36,000 shares of its own common stock, was recently announced by James Hill, Jr., Sterling president. Stanley H. Kord, who has been associated with the Puhl Company will be vice-president in charge of sales and W. G. Keswick, secretary of the company, will be in charge of manufacture. Floyd Spear has been named treasurer. In recognition of the transfer, the following Puhl officers have resigned: R. J. Puhl, president; F. G. Russell, vice-president and William J. Kennan, treasurer.

With Parfums Charbert

Joesph M. Jaffin, formerly vice-president of Universal Laboratories, Inc., has been retained in a consulting capacity by Parfums Charbert, Inc.

Foundation Sets Up Committees

J. S. Wiedhopf, president of The Fragrance Foundation, has set up five committees for the purpose of directing the organization's various activities. The planning committee, of which Mr. Wiedhopf, Parfums Ciro, is chairman, includes S. L. Mayham, The Toilet Goods Association; H. L. Brooks, Alexandra de Markoff Sales Corporation; Norman Dahl, Bourjois, Inc.; and Bernard d'Escayrac, Guerlain, Inc.

The finance committee, headed by J. I. Poses, D'Orsay Sales Co., includes Samuel Rubin, Faberge, Inc.; F. E. Shoninger, Antoine Chiris Co., Inc.; and C. A. Mooney, Lentheric, Inc.

Jean Despres of Coty, Inc. has been named chairman of the trade relations committee which also includes Richard Salomon, Charles of the Ritz, Inc.; Joseph Keho, Dorothy Gray, Ltd.; Paul Russell, Lucien Lelong, Inc.; H. Gregory Thomas, Chanel, Inc. and Warren Kane, Lanvin Parfums, Inc.

Benson Storfer of Parfums Corday, Inc. who is in charge of the membership committee will be assisted by Charles C. Bryan, Firmenich & Co., Inc.; John J. Fenlon, Molyneux Perfume Dist. Co.; and Frazer V. Sinclair, DRUG AND COSMETIC INDUSTRY.

The promotion committee, headed by Kathleen Cory of Coty, Inc., includes Leonore Beuhler, Dorothy Gray; Jessica Canne, Hudnut Sales Corporation; Elizabeth C. Dempster, Elizabeth Arden Sales Corp.; Pauline Foster, Faberge, Inc.; Sara Fox, Helena Rubinstein; and Jill Jesse, Lentheric, Inc.

Stanton Labs. Partially Burned

Stanton Laboratories is equipping a modern fireproof building near Philadelphia which will replace their former plant, partially destroyed by fire. The new address will be announced shortly.

Nazare V.P. of Charbert

Francois Nazare, formerly with Lucien Lelong, Inc., has been appointed vice-president of Parfums Charbert. He will be in charge of sales and promotion.

Dr. Klumpp on Committee

Dr. Theodore G. Klumpp, president of Winthrop-Stearns Inc., was appointed a member of the Advisory Committee for the Aged in New York by Mayor William O'Dwyer. Dr. Klumpp had previously written numerous articles dealing with problems of the aged and has been interested in the subject for some time.

Jabert Pharmacal Buys Pharmak

The Jabert Pharmacal Co., Inc. recently purchased the plant, facilities and trade-marks of Pharmak, manufacturer of proprietary and ethical drug products and according to Albert and Julian Rubinstein, president and vice-president of Jabert, all present employees of Pharmak will be retained. George W. Toms, formerly president of Pharmak, has been named executive vice-president and production manager, while Irving Ehrlich has been made treasurer of the Pharmak division of Jabert Pharmacal Co. The general executive offices of Jabert will be located at the Pharmak plant.

ALBERT RUBENSTEIN

JULIAN RUBENSTEIN

Lectures on Essential Oils

Dr. Ernest Guenther, vice-president and technical director of Fritzsche Brothers, Inc., delivered the first of three lectures in the Massachusetts Institute of Technology, November third on the subject of essential oils. The second lecture, which was presented November twenty-first, dealt with "Essential Oil Production in the Far East," while the third talk, "Essential Oil Production in the Western Hemisphere," will be given some time early in the new year.

Enlarges Medical Research Staff

Four new research associates have been appointed to the medical research staff of Sharp & Dohme, Inc. Dr. G. S. Tarnowski and Wilson Cain have joined the staff of antibiotic research, while E. H. Unger has been named to pharmaceutical research and Dr. Werner Baumgarten, to the immunochemical research staff.

Fritzsche Wins Safety Placque

Fritzsche Brothers, Inc. have been awarded the State Insurance Fund of New York Placque for the continuing record of no employee time lost due to accidents. This award bears the inscription, "By your safety efforts you have made the plant a better place in which to work and a better neighbor in the community."

Winthrop-Stearns Appoints Pedreira

Manuel Pedreira has been appointed manager in Puerto Rico for Winthrop-Stearns Inc., and succeeds Jorge Prats who resigned. Mr. Pedreira has been associated with Winthrop-Stearns as field representative in Puerto Rico since 1946.

Promoted by Bristol-Meyers

Wallace T. Drew, Donald S. Frost and Roger C. Whitman have been promoted to advertising managers of Bristol-Myers Company. They will each supervise the advertising of certain company products.

Carlson Named Representative

Lewis H. Carlson, with offices at 1300 Michigan Bldg., Detroit, has been appointed by the American Distilling & Mfg. Company, East Hampton, Connecticut, as representative for the sale of American Witch Hazel in the Detroit market area.

Schaller in Squibb Post

Election of Joseph W. Schaller as president of E. R. Squibb & Sons do Brasil has been announced by Theodore Weicker, Jr., vice-president and director of E. R. Squibb & Sons in charge of overseas operations. Mr. Schaller has been general manager of the Brazilian division since 1944.

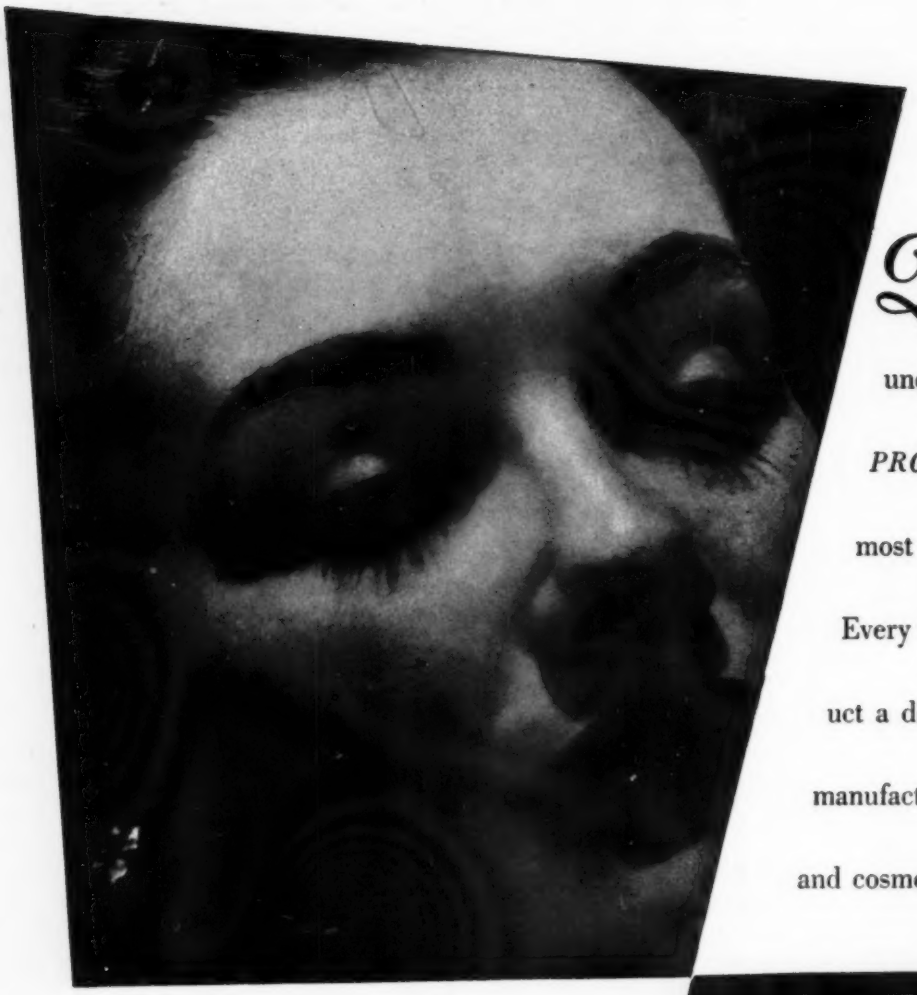
General Cap Advances Pierce

In planning to expand the business of the General Cap & Closure Division of the Jacques Manufacturing Company, Chicago, George T. Wruck, vice-president of marketing, announces that Quentin D. Pierce has been transferred from the position of general sales manager in the K C Foods Division to assume the responsibility of director of sales of General Cap.

Andersen Accepts Ungerer Position

Svend E. Andersen has joined the staff of J. N. Hickok & Son, flavor division of Ungerer & Company, according to Kenneth G. Voorhees, president. Mr. Andersen will be active in the promotion and development of fruit flavor sales for the company.

Mayor Luis de Hoyos, New York State Mayors' Reception Chairman for Distinguished Latin-American Guests and vice-president of the Synfleur Scientific Laboratories, Inc., taking a drive with Governor Thomas E. Dewey.



QUALITY based on unceasing research . . . *PRODUCTION* under the most exacting control . . . Every *SYNTOMATIC* Product a distinctive asset in the manufacture of your perfumes and cosmetic preparations.

AROMATICS

ESSENTIAL OILS

PERFUMERS MATERIALS

SYNTOMATIC CORPORATION

114 EAST 32nd STREET • NEW YORK 16, N. Y. • MURRAY HILL 3-7618

To Speak at A.A.A.S. Meeting

The American Association for the Advancement of Science is planning a symposium at the annual meeting in New York December 30, the title of which will be "Some Recent Advances in Medicinal Chemistry." Talks will be delivered by the following: Robert S. Shelton, The Wm. S. Merrell Company; Frederick Yonkman, Ciba Pharmaceutical Company; Robert C. Elderfield, Columbia University; Karl Folkers and L. H. Sarrett, Merck and Company; Robert A. Lehman, New York University Medical School; Robert Burtner, G. D. Searle and Company; Emile Sakal, Wm. R. Warner; D. L. Tabern, Abbott Laboratories, and H. M. Crooks, Parke, Davis and Company.

The meeting will be held at the Hotel Statler, Keystone Room, and will involve one day from 8:45 in the morning until 5:00 in the afternoon.

Becomes Ass't Research Manager

Dr. Donald A. Wallace has been named assistant research manager of the Pepsodent division, Lever Brothers Company, according to Henry F. Woulfe, president.

McKesson & Robbins Promotes

D. C. Berry, advertising manager of McKesson & Robbins, Inc., has been promoted to vice-president in charge of advertising. Prior to his affiliation with

D. C. BERRY

McKesson, Mr. Berry was assistant advertising manager of Schieffelin & Co. and promotion manager of Medical Economics.

Bristol Moves Cal. Warehouse

Bristol Laboratories announce the removal of their California warehouse to 2438 Enterprise Street, Los Angeles. The new number is Vandike 7726.

Bristol Laboratories, Inc. has moved its Chicago warehouse to 509 West Roosevelt Road.

Thanksgiving dinner given by Magnus, Mabee & Reynard, Inc. for members of the trade press November 22 in the Hotel Astor. More than 100 guests attended. Turkeys were provided by the farm of Percy C. Magnus, company president.

Object to DDT in U.S.P.

Chemical Industry representatives won a partial victory in their objections to the inclusion of DDT and compound solution of dimethyl phthalate in U.S.P. XIV at a recent meeting with the U.S.P. Revision Committee. It is reported that the committee has agreed to postpone the date when the monographs would become effective until one year after the effective date of U.S.P. XIV itself. New monographs generally become effective six months after publication of the compendium, and in the case of these products, this time would be increased to eighteen months.

The meeting was attended by representatives of the National Agricultural Chemicals Association, the National Association of Insecticide and Disinfectant Manufacturers, the Manufacturing Chemists Association, the Insecticide Division of the Department of Agriculture, and the Chemicals Division of the Office of Domestic Commerce. Government officials attended the meeting merely as observers and did not take any position on the question one way or the other.

The proposal that DDT and dimethyl phthalate be included in the U.S.P. came originally from a group of physicians who thought that these products are of vital importance to national health for the reason that they prevent the spread of disease by insects. The monographs have been in preparation for close to a year, but industry representatives did not learn of the existence of them until a short time before the first hearing in Philadelphia on November 8. Industry representatives claimed that the U.S.P. had no right to take products like insect repellents out of their native class and declare them to be drugs. However, it was claimed that the U.S.P. is not necessarily limited to drugs, but also includes such things as sugar, salt, and water.

Catastrophic Health Insurance

Senator Paul H. Douglas, Democrat of Illinois, has estimated that his plan to cover only "catastrophic" illnesses would cost about two-thirds less than the Truman Administration's broader program. Mr. Douglas figured the cost of the Truman plan at about $5.3 billion a year, and the cost of his own program around $1.76 billion annually. The Administration's program calls for insurance that would provide complete medical care for about 120 million people, and it would be financed mainly by a patrol tax divided between the employer and employee. Senator Taft claims that this would cost about $7 billion annually.

Mr. Douglas favors a program much more limited in scope and financed by a much smaller payroll tax. "It would be confined to catastrophic illnesses, those which really crush a family financially and which lay up the money-maker for a long time," he said. He further stated that he had in mind illnesses which would cost a family from $150 to $200 a year. He said that President Truman's national health insurance program "attempts to cover too much ground." His plan, on the other hand, is based "on the real principle of insurance—protection against great loss," he said.

Purchased by Southwestern Drug

Southwestern Drug Corporation has purchased the Western Wholesale Drug Company, Wichita Falls, Texas. J. L. Drake has been appointed manager of the new company.

Elrick V.P. of Marketing Assoc.

Robert F. Elrick, director of marketing research at Pepsodent Division, Lever Brothers Company, has been elected vice-president of the American Marketing Association.

Florasynth Research Chief

The appointment of Harry Cohen, Ph.D., as head of the Chicago research department of Florasynth Laboratories, Inc. has been announced by David E. Lakritz, vice-president and chief chemist.

With Bristol Laboratories

Dr. Bernard Chertow, formerly an assistant professor at Massachusetts Institute of Technology, joined the staff of the Chemical and Engineering development division of Bristol Laboratories, Inc., in November.

Squibb Appoints Baldock

Howard W. Baldock has been appointed manager of a newly organized department of detailing service, according to W. R. McHargue, sales

HOWARD W. BALDOCK

promotion manager of E. R. Squibb & Sons. Mr. Baldock's responsibility will be in the transmitting of product information to the medical profession.

Gillette Pays Toni Loan

Gillette Safety Razor Co. has made the final payment on a bank loan borrowed in connection with the purchase of the Toni Company in January 1948, Gillette President J. P. Spang, Jr. recently told directors. A cash payment of $11,500,000 was made by Gillette at the time of the Toni purchase, with the balance set for payment six months later. Additional payments were to be made to Toni stockholders after Toni earnings aggregated $8,000,000. The final payment on the bank loan anticipated payments of $750,000 due on January 2, 1950, and January 2, 1951.

City College Drug Marketing Course

Six of the nation's leading authorities in the drugs, cosmetics, and toiletries field have accepted appointments to the instructional staff of the Retail Drugs, Cosmetics, and Toiletries Marketing Unit of the City College Midtown Business Center, according to an announcement by Dr. Robert A. Love, Director.

Each of the men is a specialist in his particular field and will instruct those areas dealing with his specialty. They will bring to the classroom many years of practical business and professional experience, thus keeping the instruction up-to-the-minute on the latest developments in the field.

Joseph Rosenwald, President of Affiliated Drug Stores, Inc., and one of the country's outstanding experts on retail drugs, cosmetics, and toiletries marketing, will concentrate on the development of effective sales techniques in the retail drug store.

Ray Schlotterer, Executive Secretary of the Federal Wholesale Druggists Association, and an outstanding authority on drugs, cosmetics, and toiletries distribution, will concentrate on the area of the retailers' sources of supply, with particular emphasis on the role of the wholesaler in the distribution of drugs, cosmetics, and toiletries.

Laib Shenkin, President of Shenkin Store Equipment Company, and a leading authority of drugstore layout and modernization, will cover the utilization of practical drugstore modernization and layout techniques.

George M. Chapman and Andrew Graham, associated with the law firm of Rogers, Hoge, and Hills, will both deal with the legal aspects of drugs, cosmetics and toiletries distribution at the retail level.

Isadore Soba, tax and business consultant to the Queens County Pharmaceutical Association and a well-known authority on retail drugstore accounting methods, will deal with the many and varied aspects of financial control.

Zonite to Move in New York

Zonite Products will move its New York executive offices and export offices to the new 36-story building now being rushed to completion at 100 Park Ave., on the site of the old Murray Hill Hotel. The move will take place some time in February, Zonite officials predict. Zonite, makers of Zonite, Forhan's tooth paste, Larvex, and Argyrol, is currently located at 370 Lexington Ave., New York. The company will occupy a portion of the third floor in the new building. The company has taken a ten-year lease on the new office space.

Cardamon Replacement

Following a long period of severe scarcity, supplies of Cardamon Oil N.F. are now virtually out of the market, according to Magnus, Mabee & Reynard, who further state that the decorticated cardamoms from which this oil is distilled are practically unobtainable. To fill this gap, M. M. & R. are offering what they describe as a scientific replacement, which is an improvement of a replacement perfected during the war, and which may be had for only a fraction of the cost of the natural product. Use of the replacement, called Card-O-Mar, does not necessitate any change in formula. The firm states that the replacement is virtually indistinguishable from the natural oil in flavor, strength, and all other characteristics.

Sheffield Named First V.P.

T. C. Sheffield was appointed first vice-president of the Sheffield Tube Corporation at a meeting of the board of

T. C. SHEFFIELD

directors recently. Mr. Sheffield is in charge of the corporation's West Coast offices in Los Angeles, and was formerly manager of its Chicago Office.

Drug Firms Give to Pharmacy College

Drug firms have contributed $500,000 for construction of a new $700,000 College of Pharmacy building at Butler University, Indianapolis. Major contributions to the fund were Eli Lilly & Co., $100,000; Kiefer-Steward Co., $60,000; Hook Drugs, $32,500; Haag Drug Co., $25,000; Coca Cola Bottling Co. of Indianapolis, $15,000; Miles Laboratories and Ames Company, $13,000; Owens-Illinois Glass Co., $12,000; and Hamilton, Harris & Co., $10,000. William J. Mooney, president of Mooney-Mueller-Ward Co., was chairman of the College of Pharmacy Finance Committee.

Klumpp Says U. S. Must Aid Medical Schools

Medical schools in this country are today "facing a crisis" that can only be solved by government aid, Dr. Theodore G. Klumpp, president of Winthrop-Stearns and president of the American

DR. T. G. KLUMPP

Pharmaceutical Manufacturers' Association declared.

Presenting the A.P.M.A. Award of Distinction to the Association of American Medical Colleges at a Waldorf-Astoria banquet, Dr. Klumpp expressed confidence that the award winning group has the "leadership, statesmanship and wisdom to meet this new situation as it solved the problem of the quality of medical education in the past."

"Repugnant as the idea is to me, circumstances force us to look for help to the collective and collecting representative of the people, our government," Dr. Klumpp said. "The problem is no longer, as I see it, where the support is coming from. It is now a problem of getting enough support, and just as important of seeing to it that the contribution from this source comes in such a way that it does not strangle medical research by red tape.

"Medical research must and should expand far beyond its present boundaries. Our society is devoting billions to research in destructive atomic energy and pennies to medical research.

"Private philanthropy, which once provided the principal sustenance for research, has been taxed out of existence, and I am certain, that confronted with similar tax problems, industry cannot entirely support the extensive program of fundamental investigation, upon which the future medical progress depends."

The award to the Association of American Medical Colleges was made on nomination by the Scientific Award Advisory Committee, of which Dr. Perrin H. Long, Professor of Preventive Medicine, Medical School, Johns Hopkins University, is chairman.

Dr. Klumpp traced development of research in this country from the early work of the medical colleges, which he described as the "cradles of medical research in this country." Collaboration with industry began about 40 years ago, he said, concluding that today "we are working together in a healthy relationship, a relationship which will one day conquer most of the diseases that now plague mankind."

Bernard R. Armour

Bernard R. Armour, president of the Heyden Chemical Corporation, and American Aniline Products, Inc., died December 1, at the Roosevelt Hospital, New York. Mr. Armour, who was 58 years old, lived at 251 Dana Place, Englewood, N. J. He was born in New York and educated in schools there. He began his business career in early youth with the Swiss Colors Company of New York later becoming an executive of the firm. This company was the parent firm of the American Aniline Products which developed from a series of mergers.

He was a member of the Business Executive and Advisory Committee of the city Department of Commerce and the National Democratic Club. He was chairman of the heavy industry and manufacturing division of the Independent Citizens Committee for the re-election of Mayor O'Dwyer during the recent campaign. He was recently appointed a director of the Chamber of Commerce of Israel and a member of the board of directors of the American Association of Textile Colorists and Chemists.

Other corporations in which Mr. Armour held office were the American Potash & Chemical Corporation, chairman of the board; Ansbacher-Seigle Corporation, director; Aspimook Corporation, director; Charles Helmuth Printing Ink Corporation, president and director; Hartford Rayon Corporation, president and director; Markt & Hammacher Company, director; New York Board of Trade, director; The Ore & Chemical Corporation, treasurer and director; Pell, Ltd., director; and United Zinc Smelting Corporation, treasurer and director.

Mr. Armour is survived by his wife, Mrs. Martha Armour; three daughters, the Misses Ruth, Toby, and Rachel Armour; three sisters, Mrs. Sarah Boardman, Mrs. Anna Bunin, and Mrs. Geraldine Theil; and a brother, George L. Armour.

Dr. Edward C. Merrill

Dr. Edward C. Merrill, assistant vice-president of the Rexall Drug Company, died November 14 at the Flower Fifth Avenue Hospital in New York City, where he had gone on a business trip. He was 67 years of age. Dr. Merrill

DR. EDWARD C. MERRILL

joined the Rexall Company as chief chemist in 1919, later serving as director of research and development until his appointment to the office of assistant vice-president in 1939. He is survived by his wife, Mrs. Gertrude W. Merrill, and a son, Edward, of Cambridge.

Clarence A. Seguin

Clarence A. Seguin of Huntington Laboratories, Inc., died suddenly on November fourth. He was a member of the Chicago Perfumery Soap and Extract Association.

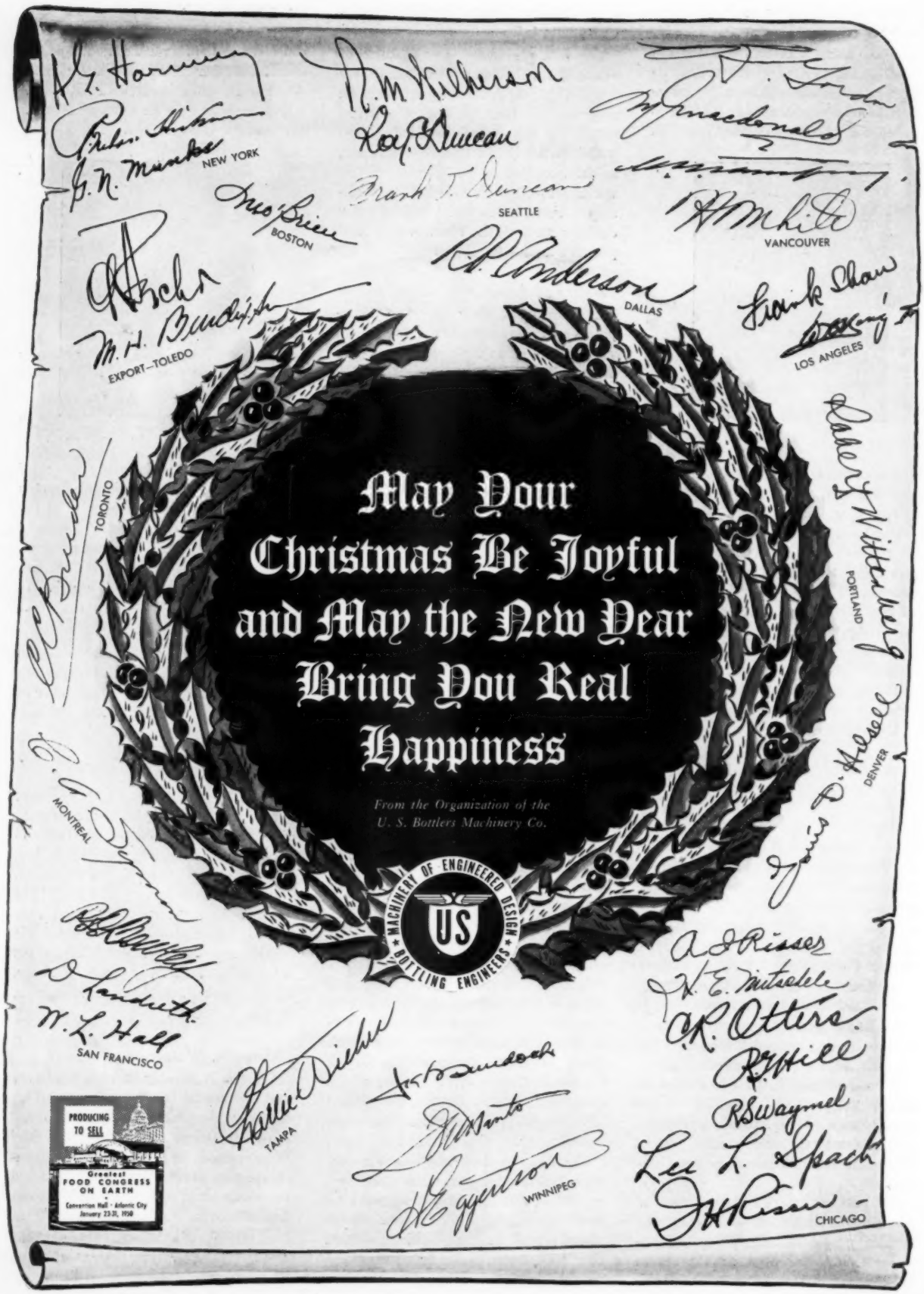
Dr. Carl G. Amend

Dr. Carl G. Amend, director and former president of Eimer and Amend, died at his Brewster, N. Y. home November 28. Dr. Amend succeeded his father, the late Otto P. Amend, as president, and continued in that position until 1940 when the business was sold to the Fisher Scientific Company of Pittsburgh. He continued as director. Surviving are his wife, Mrs. Virginia Amend; a sister, Ottilie Amend, and a stepdaughter, Bettina Von Saal.

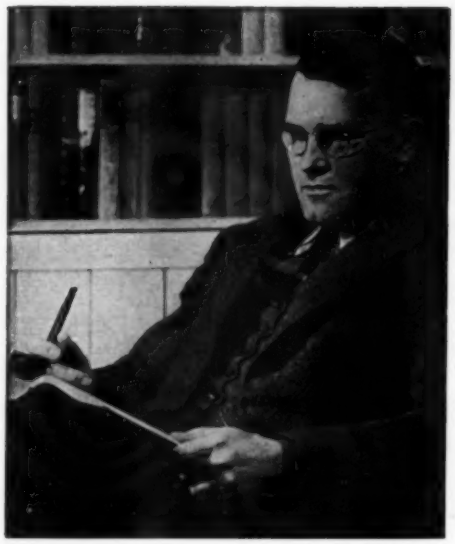
Charles N. Waterman

Charles N. Waterman, 63, secretary and director of H. Kohnstamm & Co., Inc., died November 27 at his home, 320 Riverside Drive, New York City. Mr. Waterman began working for the chemical concern as an office boy in 1908 and later organized the company's export department.

Surviving are two daughters, Mrs. Arline Kempler and Mrs. Carolyn Kutner.


NEW YORK
BOSTON
SEATTLE
VANCOUVER
DALLAS
LOS ANGELES
EXPORT—TOLEDO
TORONTO
PORTLAND
DENVER
MONTREAL
SAN FRANCISCO
TAMPA
WINNIPEG
CHICAGO
May Your Christmas Be Joyful and May the New Year Bring You Real Happiness
From the Organization of the U. S. Bottlers Machinery Co.
MACHINERY OF ENGINEERED DESIGN
US
BOTTLING ENGINEERS
PRODUCING TO SELL
Greatest FOOD CONGRESS ON EARTH
Convention Hall - Atlantic City
January 23-31, 1950

Production Forum



By FRANCIS CHILSON
Industrial Consultant

Laboratory Design

To design a first class research laboratory is nowadays an extremely expensive procedure. If the laboratory is to have refinements such as tile walls, tile floors, soundproofing and air conditioning, you can expect to spend from $25 a square foot upward. Because of the various types of piping and services required, laboratory construction is the most expensive type of construction of which I have any knowledge. Therefore, every resource should be utilized to cut construction costs as much as possible. Obviously, the more money you save in construction the more you can invest in actual research.

I have felt for a long time that the traditional way of laying out a laboratory leaves everything to be desired. The usual procedure is to have a central aisle five or six feet wide separating partitioned laboratory areas, which are arranged along the windows. Inside these laboratory areas, one usually finds benches arranged at a right angle to the windows with working aisles paralleling the windows and also the partitions, so that the chemists can get around both ends of the benches. One laboratory I visited recently was laid out in this manner, and I pointed out to my client that the laboratory really was not overcrowded as he had thought—most of his space was wasted in aisles. The center aisle was six feet wide, and the two aisles in each of the laboratory areas paralleling the center aisle were each four feet wide. That meant that in a building fifty feet wide, twenty-two feet was taken up in aisle space. This is a ridiculous waste of space when you consider that it is easy to lay out a laboratory with a minimum of aisle space. Aisles should be used not merely as traffic lanes but as working spaces as well.

In such laboratories, which are almost traditional, the laboratory areas on either side of the main aisle have complete sets of services of all kinds, sewer lines, hot and cold water, electricity of different voltages, gas, steam at different pressures, vacuum compressed air, etc.

I recommend to clients that the best way to lay out laboratories is to put them back to back with a common set of roughing located between the laboratories so that if there is an acutal dividing partition the laboratories on both sides of the partition can hook into the same lines. This means a single set of main lines for all services. In such a layout the access and working aisles can be along the outer walls.

This brings to mind the desirability of windowless laboratory construction. I know that the mere mention of a windowless laboratory causes the average chemist's hair to rise. They tell you they must relax by looking out a window occasionally. Actually, it is only "occasionally" because a good part of their time is spent in dark rooms, animal rooms and other areas in which there is no outside light. Anyway, when there are outside windows laboratory supervisors will always appropriate the best lighted spaces for their offices.

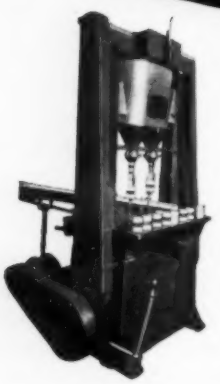
Laboratory work can best be done where light values are constant and light values are never constant when outside light is depended upon for illumination. I had a talk recently with the research director of one of the big rubber companies about the reaction of his men to the windowless laboratory which his company finished a year or so ago at a cost of several million dollars. He told me the decision to build a windowless laboratory was made simply because everybody wanted his bench to be located next to a window. Since everybody couldn't be pleased, he decided to eliminate windows as a layout factor. The result surprised him. There was an immediate improvement in morale and all the bickering about where a bench should be located, when changes were made, immediately stopped. He said in the old days the laboratory supervisors always appropriated the space near the windows and the men working at the benches were out of luck in so far as outside light was concerned. Now they don't care where their benches are located; everybody has the same quantity of light and since the building is completely air conditioned, ventilation is uniform everywhere.

US

Manufactures Machines For

NET WEIGHING
GROSS WEIGHING
PACKING
PACKAGE
FORMING & FILLING
CARTONING
CARTON SEALING
CARTON LINING
CARTON WRAPPING
PAPER BOX FORMING
PAPER BOX COLLAPSING

. . . they chose US



Model MH "BOND"
Semi-Automatic
TWIN STATION
FILLING MACHINE

The makers of the products illustrated, old-timers in the powder-packing field, chose the Model MH Bond Semi-Automatic Twin Station Filling Machine several years ago. Today they are still enthused with its versatility in handling varying-sized containers and widely different materials, with its speed and accuracy in filling cans, jars, cartons and shallow boxes. It is the ideal machine to volume-fill, gross-weigh or pack talcum powder, face powder and other types of cosmetic powders, as well as dry pharmaceuticals, ground spices, cocoa, flour and other fine powdered materials. What's more, with the MH Bond a single operator can fill up to 40 containers per minute with the closest accuracy. If you package cosmetics, drugs, chemicals, *in fact powders of any kind in any type of container,* it will pay you to get in touch with **US.**

US

NET & GROSS WEIGHING ★ PACKAGE FORMING & FILLING ★ CARTON SEALING, LINING, WRAPPING ★ BOX MAKING

AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

45 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York ★ Cleveland ★ Chicago ★ San Francisco (Mailler Searles, Inc.)

Biological Layout

The traditional biological layout certainly wasted an immense amount of space. Virtually every type of product was made in a specialized area some of which were used only two or three months during the course of the year. In each area sterile seeding rooms were provided, and also incubation rooms and refrigerators. There are only a few products for which the Government regulations require isolation, such as the preparation of rabies vaccine. Housing the animals needed, especially the larger ones, demands a certain amount of isolation, but the preparation of the end products can be done in functionalized areas. A biological unit can consist of a group of sterile rooms, a subdivided incubator and subdivided refrigerator. This procedure requires less than a qarter of the space formerly utilized. When I made this suggestion to one of my clients it was protested as a radical departure, but actually it wasn't, because the laboratories of the Bureau of Animal Husbandry are arranged substantially in this way. With the equipment we have available, and with what we now know about sterile techniques, isolation as a means of preventing contamination or mixups is as outmoded as the Model T Ford.

Chemical Plant Design

The pharmaceutical industry is very rapidly becoming a branch of the chemical industry. Many pharmaceutical companies are operating chemical plants. There is still an unfortunate tendency, however, to copy the old German plan, which, in the years following World War I, was adopted by many of the large chemical companies, of having a separate building for practically every product made. Building costs are too high to permit such a wasteful procedure to continue. I don't believe building costs will come down within our lifetime. As in laboratory layout, the layout of a chemical plant requires a great many services and the piping in such a plant is almost in a continual state of change as new setups are made. Therefore all service lines should be accessible and minimized as much as possible. Instead of duplicate service lines along the exterior walls of the chemical plant, the lines should be laid out along one side with lateral lines to take care of operating requirements. When the chemical plant is expanded it can be expanded on the side opposite the existing building so that the main service lines form a spine between the two. Of course a certain amount of isolation cannot be avoided in chemical plant design because so many products are either explosive, highly inflammable, corrosive, or noxious in some way. Safety requires the isolation of such buildings, but for the most part the majority of fine chemical products can be made in a single building.

Industry Changes

Some time ago I listened to Elmer Bobst addressing a meeting of the A.P.M.A. It was a reminiscencing talk about methods in pharmacy in 1902 when Bobst first entered the industry. What interested me was that between 1902 and 1914 when, as a boy I entered my first drugstore, there had been no changes in procedure at all. The operations Elmer described are as familiar to me as they are to him. Ten years later I entered my first pharmaceutical plant and, excepting for a difference in scale, there was comparatively little change from the drugstore operations with which I was familiar. A decade later, when I entered the consulting business, I was surprised to find that so many drug plants had remained static for more than a generation. No one then visualized the gigantic vats, which now are a characteristic part of anti-biotic manufacture; no one visualized the bewildering array of complex chemical equipment which is characteristic of the industry now, and which reflects its change from an empirical industry based largely on traditional formulae utilizing botanical and animal products, to an industry which is highly scientific and uses a vast number of scientific organic chemicals which only a few years ago did not exist.

The cosmetic branch of the trade is changing very rapidly too. In the early twenties when I first entered the cosmetic industry, very few of the large firms employed graduate chemists. A few of them had pharmacists. Virtually none of them did any control work and actual research was something nobody had even heard of. Now the cosmetic industry employs a vast number of graduate chemists of all degrees, and is spending a substantial amount of money on pioneering research. A lot of the chemicals introduced as a result of this research were utterly unknown twenty years ago. I must be getting old to be able to reminisce like this, but if the rate of change continues a pharmaceutical and cosmetic plant of the year 1980 will be foreign places to us if we should pull the Rip Van Winkle act and wake up then.

Conference Services

As a result of many requests from all quarters of the industry and from large as well as small manufacturers, I have developed a conference service under which, for a fixed fee, my services are available for a three-day period, including traveling time.

This plan was developed because many firms have projects which are not sufficiently extensive to justify my regular retainer arrangement. Sometimes firms that have used this service are not ready to proceed with plans and consequently not prepared to enter into a regular retainer arrangement.

Since it has been in operation I have under this plan sat in at a number of board meetings when the desirability of modernization and plant construction projects were discussed. In some cases I have been asked to evaluate plans that already were prepared. In still others I have been asked merely to survey existing facilities and organizations for the purpose of suggesting improvements in both. In some instances I have acted as technical adviser to boards of directors.

Up to the first of this year I had always made it a point not to consider any assignment which did not

ANOTHER S & S COMBINATION

FOR SUCCESSFUL PACKAGING

S & S Duplex Automatic Filling Machine-Production 60-70 per minute at Amm-I-Dent, Inc., Jersey City, N J.

There is an S & S Filling Machine suitable for filling practically any powder or granulated product and at speeds to suit your needs.

15—30—60—120 per minute

We also make a complete line of packaging equipment:

Carton Filling & Sealing . Flexible Packaging
Tight Wrapping Machines
Paper Box Making Machines for "Set-Up" Boxes

STOKES & SMITH Co

PACKAGING MACHINERY **PAPER BOX MACHINERY**

Subsidiary of Food and Chemical Corporation

4912 Summerdale Ave., Philadelphia 24, U. S. A.

fmc

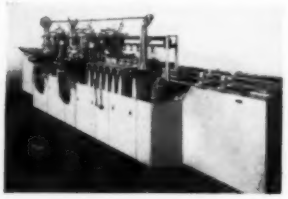
Exclusive West Coast Distributor
Anderson-Barngrover Division of FMC
San Jose 5, California

WORLD LABELERS

WORLD'S RECORD

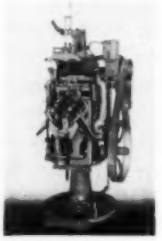
for dependable, low-cost labeling helps you select the best Labeler in the WORLD for your purpose

Whatever your requirements, there's one Labeler that's best in the WORLD for you. For example:



WORLD *Bee-Line* for all sizes and shapes of front and back, body, shoulder and neck labels and of containers; production up to 2 a second or even faster. Model 40 *Bee-Line* is ideal for gallon bottles or jugs.

WORLD *Turret* for fine quality low-cost labeling of a variety of container shapes and sizes. Applies front body labels, neck labels or all around neck wraps simultaneously when desired.



WORLD *Model S* Semi-Automatic applies all kinds of labels to all sizes of containers; provides flexible, dependable and easy operation by unskilled workers.

The best Labeler in the WORLD for you is a long-term gilt-edge investment. Operating and maintenance cost is exceedingly low. Send a sample of your container(s) and label(s) for recommendations and cost estimates.

"YOU GET THE BEST LABELERS IN THE WORLD"

ECONOMIC MACHINERY COMPANY

Builders of World Automatic and Semi-Automatic Labelers for Every Purpose

WORCESTER, MASSACHUSETTS

justify a retainer for at least a year. This made my services unavailable to the smaller firms and to those who needed outside counsel on relatively small projects or on projects which they were not yet ready to launch for one reason or another.

I will be glad to give you further details as to this conference service if you wish to write me. My headquarters address is East Chatham, New York.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Solvent Extraction

For years Chemical and Process Engineers have sought an efficient solvent extraction process which could be taken out of the laboratory and put to work economically in industry. The research of Dr. D. G. Scheibel, of Hoffmann-LaRoche, Inc., and the materials and methods of Otto H. York Co., Inc., East Orange, N. J. have now produced highly efficient, practical and economical equipment for performing all liquid extraction operations. First public demonstration of this equipment was made at the Chemical Industries Show, Grand Central Palace, New York, November 28 through December 3.

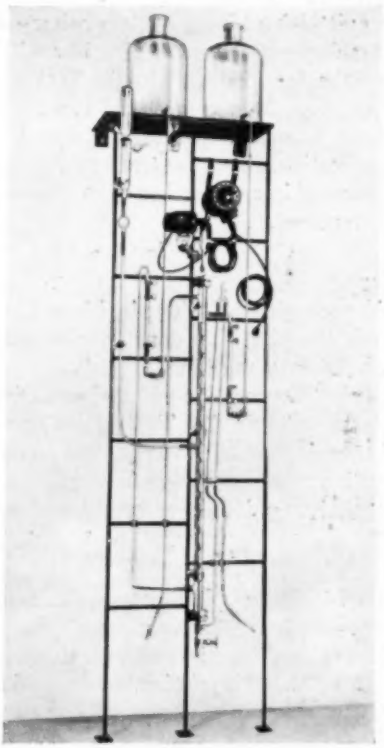
The Process Engineer has had to compromise in many situations where solvent extraction proved ideal in the Laboratory. Translating solvent extraction from laboratory to plant scale operation differed greatly from translating distillation procedures, where often as not he could improve over the efficiency obtained in the laboratory. For in solvent extraction he had only his system of separate mixing and settling vessels with an array of pumps, piping, valves, etc., or packed towers and plate towers of considerable height and an efficiency which could provide only a few theoretical extraction stages. In either case, the equipment cost made processes requiring more than five extraction stages prohibitive.

In the York-Scheibel extractor the best features of both methods have been combined by use of a column (patent applied for) in which mechanically agitated mixing sections are separated by packed settling sections. Proper agitation design and proper agitation speed, when used together with a packing of the proper characteristics, gives extremely high extraction efficiency. The height of the column has no effect on the extraction stage efficiency, and the effect of the diameter on the height of a theoretical stage in the extraction column is no greater than the corresponding effect on the height of a theoretrical plate in a distilling system. Thus, plant scale processes are no longer limited to 5 or 6 theoretical stages. Fifty or sixty, or even more, are now not only possible in one column but have proven to be practical and economical.

Liquid-liquid extraction equipment is now comparable in performance to fractional distillation equipment. The height of an extraction stage is now generally lower than the height of a distillation plate, and the extraction stage efficiency is generally higher than distillation plate efficiency.

There are many separations in which distillation cannot be conveniently or economically employed. The separation of close-boiling mixtures; azeotropic mixtures; non-volatile mixtures; materials from dilute solutions; impurities and color bodies; structural isomers—these are examples. The York-Scheibel extraction equipment performs all these separation operations.

For instance: the recovery and concentration of vitamins and hormones with minimum loss of product due to decomposition has always been a problem. These



materials are unstable at elevated temperatures and usually occur in complex mixtures. Vacuum distillation usually employed has the two disadvantages of poor fractionation together with relatively high equipment cost. In the case of molecular distillation, exceptionally high vacuums are required to evaporate the mixture without decomposition, and fractionation equivalent to only one theoretical plate can be obtained. A multiplicity of such plates requires a corresponding number of molecular stills or a corresponding number of operations on the same still. And, the continued processing of the mixture increases the possibility of decomposition less. Through practical fractional liquid extraction, the recovery and concentration of vitamins and hormones is done efficiently and economically.

In fractional liquid extraction two immiscible solvents are used. The two components to be separated are distributed unequally between two liquid phases instead

of between the vapor and liquid phase as in distillation. A much wider choice is possible with two solvents than where one phase must be vapor. The two liquids can be chosen so that each solvent has a preferential effect on one of the components of the original mixture.

In carrying out fractional liquid extraction a fresh heavy solvent introduced at the top of the column serves to rectify the light solvent extract moving upward; this action being similar to that produced by liquid reflux in a distillation column. Similarly, the light solvent entering at the bottom of the column performs a stripping action on the heavy solvent extract flowing down the column; an action similar to that produced by reboil vapor in distillation.

The illustration accompanying this article shows an extraction unit with a 1 inch, 14 stage column, complete with all auxiliary equipment. This is available from stock from the fabricator, Otto H. York, Co., Inc., East Orange, N. J. Larger Pilot and Plant scale equipment is built to order, assuring maximum efficiency for any application. These extractors are designed in any diameter and in any number of stages necessary to do the job required.

Strip Packaging

No, strip packaging isn't done by hippy-yippy naked girls—more's the pity—it's done by a machine called the Colton Dismat machine developed by McKay-Davis Chemical Corporation—Machinery Division and sold by Arthur Colton Co. Tablets and capsules are packaged by this machine in individual compartments of heat sealing material in the form of a strip which is then cut up into units of any required count.

Self Priming

The Model 40 Series R Self Priming Durcopump, now in regular production after two years of experiment and plant and field testing, is believed to be the most efficient centrifugal self-priming pump made for handling corrosive solutions.

Plant tests conducted in accordance with Hydraulic Institute standards have shown these new pumps to prime in 22 seconds with a static lift of 15 ft. After being primed, they maintain dry vacuum as high as 28.4" Hg. With a static lift of ten feet, air was admitted to the suction line of a 1½" x 1½" Series R Self Priming Durcopump at the rate of 54 cu. ft. per minute without breaking the prime. The air handling capacity of the new pump is greater than that of any self priming pump on which comparative tests were made.

This new pump is now available in two sizes, one with capacity ranging from 20 GPM against 81 ft. TDH to 160 GPM against 33 ft. TDH and the other with capacity ranging from 40 GPM against 125 ft. TDH to 240 GPM against 75 ft. TDH, when operating at 1750 RPM. Larger pumps are expected to be available later.

The features of this new pump include:

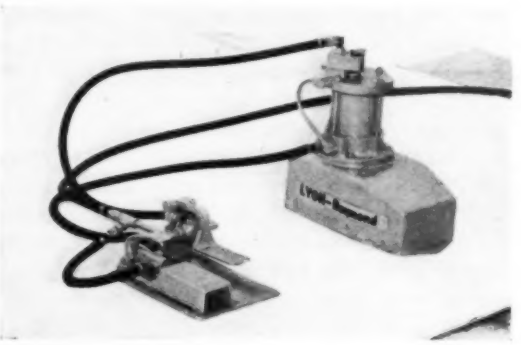
1. Availability in 12 Durco Corrosion Resisting Alloys: Duriron, Durichlor, Durimet 20, Durco D-10, Chlorimet 2, Chlorimet 3, Monel, Pure Nickel, Inconel, Ni-Resist, Nickel Cast Iron and Cast Steel.
2. Conversion of wet end parts from one alloy to another without changing working dimensions or the power end.
3. Teflon Seal cages in stuffing boxes for lubricant or liquid seal, which cannot score the shaft sleeve.
4. Micro-adjustment of impeller in casing.
5. Renewable shaft sleeves.
6. Corrosion resisting deflectors to protect bearing construction in power end.
7. Elimination of impeller nuts. No threads are exposed to corrosive attack. Impeller heads cannot loosen under normal service.

The whole story on this new pump is given in Bulletin 816, which can be obtained by writing The Duriron Co., Inc., Dayton 1, Ohio.

Continuous Air Pump

Lyon-Raymond Corporation announces the introduction of a continuous acting air operated pump similar in design to their single acting pump which was introduced a short time ago.

In operation, the new air motor is so arranged that it runs continuously merely by holding open the valve which controls the air supply. A reciprocating valve alternately diverts air pressure from one side of the air piston to the other.



A relatively large air piston is directly connected to a small hydraulic piston which pumps oil under high pressure.

The pump is equipped with a built-in release valve to permit pressurized oil in the hydraulic cylinder to return to the reservoir by gravity. A single, three-position, four-way valve operates the release and controls the pumping action.

Working oil pressure of 1000 p.s.i. can be obtained from a 90 p.s.i. air pressure. Higher working pressures are also available.

The displacement of oil per stroke-cycle is 3.4 cubic inches. 1.0 to 1.5 gallons of oil can be pumped per minute depending on the air pressure.

Air consumption is 3.5 CFM (90 p.s.i.) at an average pumping rate.

This new pump is designed for use on such LYON-Raymond products as their Hydraulic Elevating Tables, Hydraulic Positioners and Hydraulic Strip and Sheet Feeding Table. It can however, be adapted for other products such as lifting pallets or tote boxes requiring similar pump specifications and is offered separately.

Stokes Catalog

F. J. Stokes Machine Company, Philadelphia, Pa., announce a new catalog titled "Stokes Tube Filling, Closing and Sealing Equipment." Stokes hand-operated, semi-automatic and automatic filling machines for tubes, jars and cans are fully described, together with specifications. Data on the Stokes Westite Hermetic Closure and the Stokes method of "fat-filling" of tubes is also included.

Catalog No. 510 will be sent on request by writing the F. J. Stokes Machine Company, 5900 Tabor Road, Philadelphia 20, Pa.

New Bowen Spray Dryer

Bowen Engineering, Inc. announces the addition of a new spray drying unit for moderate production and pilot plant operation with a production rate of two to seven tons per day.

The new unit will be known as the Number 2 Spray Dryer. It is extremely compact, occupying a floor space only 10 x 15′; overall headroom 23′. The entire dryer design is developed with a view to reduced field erection. The drying chamber is shipped as an assembled unit, while structural steel framework is sectionally shop welded and requires bolting in but six sections.

Special emphasis has been placed on the development of this spray dryer to meet the requirements of the purchases with a limited budget. The Number 2 unit is easy to clean, simple to operate, and relatively inexpensive. It has all the main elements of Bowen high tonnage spray dryers, consisting essentially of a heater, drying chamber with Bowen high speed spray machine, collection system and fan, in typical Bowen compact arrangement. The equipment is instrument-equipped for simplified semi-automatic operation. It contains recording instruments for inlet and outlet temperatures as well as controls for over temperature and inlet temperature. Heat sensitive materials can be "shock cooled" by admitting cooling air thru patented Bowen side air inlets.

A Number 2 unit is to be in operation at the Bowen Laboratory to provide formulation or market samples, as well as complete operating techniques for those interested.

Venturi-Ball Valves

Paul high-performance Benturi-Ball valves are fully described in the new 16-page, 2 color Bulletin No. 103 just released by Paul Valve Corporation, 683 Third Ave., New York 17, N. Y. The well illustrated catalog covers principle of operation and engineering data on the complete line, including "whistle" valves, bar stock valves, cast steel and stainless steel valves, and forged valves.

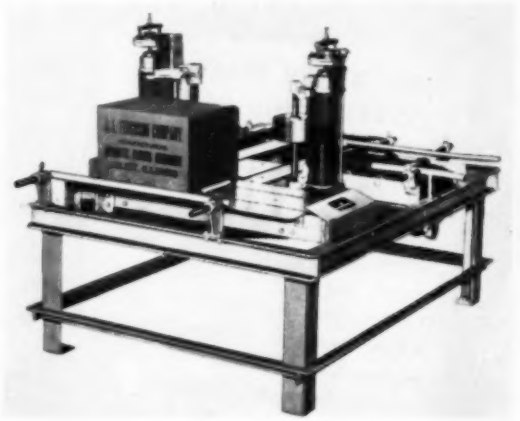
Methods of operation include standard handwheel, quick-opening lever, diaphragm, piston and cylinder, solenoid, and emergency trip casualty valves.

Case Printer

New and vastly improved equipment for the printing of corrugated shipping cases is announced by J. L. Ferguson Company, Joliet, Ill. The new unit is a Packomatic automatic shipping case imprinter that affords a wide variety of printing combinations in type sizes from one-quarter inch to one and one-half inches high.

The machine uses specially designed foam rubber type faces that follow case contours and eliminate fadeouts. Quick-drying inks in various colors permit immediate handling of cases without danger of smear or smudge. Automatic inkers that feed ink to the rolls for long production runs are available.

Packomatic automatic shipping case imprinter is adaptable to and practical for all industries using paper



shipping cases, regardless of contents. Case range includes lengths of from 12 inches to 23 inches; widths of 8¼ to 14¼ inches; case heights of from three to 18 inches. Equipment for larger size cases is available on special order.

The Packomatic unit is part of the production line, receiving loaded cases as they are discharged from the compression unit of case sealer. Cases are timed into the printing rolls, printed and discharged for storing or shipping at speeds of up to 20 per minute. Change-over from one set-up to another is simple and quick.

Packomatic's case imprinter saves warehouse space, eliminates use of stickers, hand-stenciling and excessive handling. It materially reduces shipping case loss through damage to printed cases.

(Continued on page 686)

The MATEER ELECTRIC FILLER HANDLES THEM ALL!

LIQUIDS • OILS
POWDERS • PASTES

FAST and ACCURATE
from 1/500 oz. to 2 pounds!

NO OTHER MACHINE COVERS THIS RANGE OF PROPORTIONING AND FILLING

The Mateer Electric Filler assures greatest accuracy and speed. As close as ± ½%. 20 to 70 cycles per minute. Equally efficient on wet, viscous, or dry materials. All electric head. Totally enclosed. Manual or automatic control. Can be used on all types of containers—small ampuls and serum bottles to collapsible tubes, cans, boxes and jars. Can be furnished with special hoppers and engineered to your own requirements.

Fully illustrated Bulletin mailed promptly. Address Dept. 102.

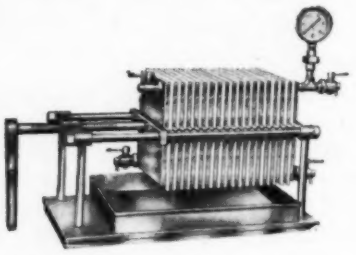
G. DIEHL MATEER & CO.

LINCOLN HIGHWAY • DEVON, PA.

SANITYPE

(Stainless Steel)

PRESSURE STERILIZING FILTERS
FOR
BACTERIOLOGICAL, BIOLOGICAL, PHARMACEUTICAL CHEMICAL AND FOOD FILTRATION

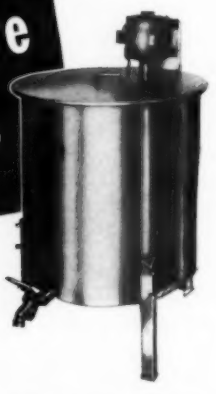


A *new* and *improved* stainless steel unit for the clarification, polishing and sterilization of all types of pharmaceutical solutions and medicinal preparations, including serums, plasma, vaccines, antibiotics, vitamin, saline and glucose solutions.

All internal surfaces coming in contact with liquid are smooth and highly polished, as well as all external surfaces. Write for latest illustrated literature which gives complete details.

F. R. HORMANN & CO., INC.
17 Stone Street, Newark 4, N. J. • Plant: Glen Cove, Long Island
NORTHERN GLASS COMPANY, 118 Sacramento Street, San Francisco, Cal.

Now it's here
A COMPLETE SELF-CONTAINED MIXING UNIT



NOW it's easier—faster to load and operate.
FOR LOW-COST MIXING

You can save time and labor in your mixing and blending operations with an Alsop Stainless Steel Mixing Tank. The specially designed sloping bottom and side outlet insures complete and fast draining. The shorter legs makes the whole Tank low for easier loading and operating yet allows unrestricted clearance between tank bottom and floor. You can be sure of dependable, efficient mixing with minimum cleaning time and operating costs. Available in a complete range of sizes and capacities.

Our new catalogue completely describes our Mixing and Storage Tanks, Filters and Agitators. Write for your free copy. The Alsop Engineering Corporation, 412 Cass Street, Milldale, Conn.

ALSOP ENGINEERING CORP.
Filters, Filter Discs, Mixers, Agitators, Pumps and Tanks

WHEN YOU USE A MIKRO
You Will Find That You---

NO. 2TH MIKRO-PULVERIZER blending face powder mixtures. Complete blending—color and perfume thoroughly mixed, results in fine textured powders requiring no further treatment. Total of 13 MIKROS in this plant.

Let us show you how others have effected economies and improved their finished product through the use of MIKRO grinding and dust collecting equipment specially designed for the Drug and Cosmetic Industry.

THE MIKRO PLAN FOR PROCESSING EFFICIENCY

If you have a pulverizing or dust control problem, our engineers will study it, telling you what our equipment and the MIKRO-Plan can do for you. There is no charge for this service which is based upon thousands of tests and performance records.

MIKRO-PULVERIZERS—in six sizes
MIKRO-ATOMIZERS—in three sizes
MIKRO-COLLECTORS—in single or multiple-bag units.

WRITE TODAY—for our new, illustrated catalog and information regarding our uncharged-for laboratory service to help you solve your pulverizing and dust collection problems.

PULVERIZING MACHINERY COMPANY
22 Chatham Road **Summit, New Jersey**

MIKRO-PULVERIZER (FINE) **-ATOMIZER** (ULTRA FINE)
Reg. U. S. Pat. Off.
Also Makers of the MIKRO-COLLECTOR

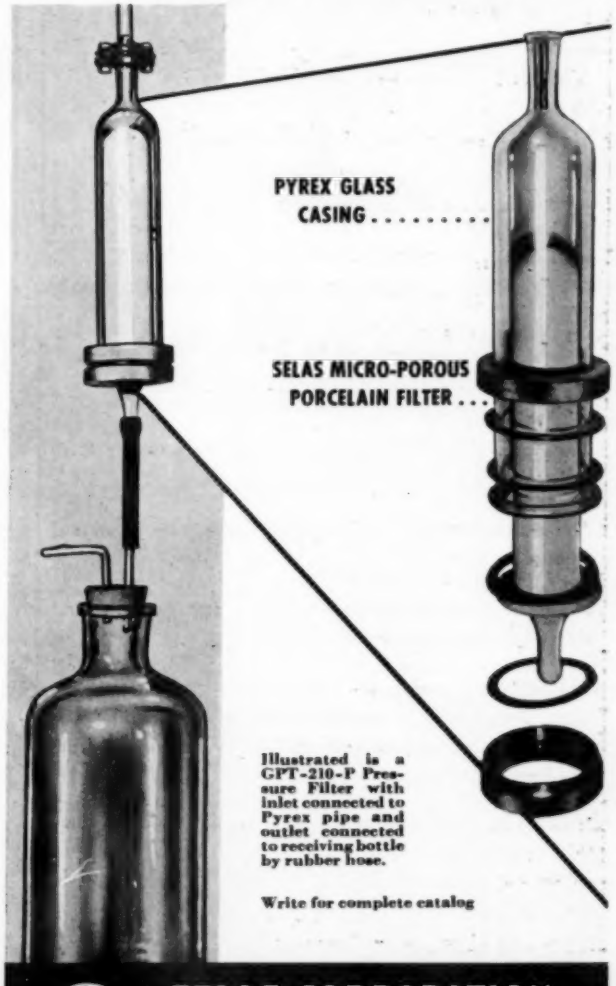
PRESERVE OUR HERITAGE: FAITH, FREEDOM AND INCENTIVE

SELAS . . . no metallic contact . . .
PRESSURE FILTERS

SELAS . . . no metallic contact . . . PRESSURE FILTERS have been recently developed for the clarification, polishing and sterilization of those critical pharmaceutical and biological preparations which do not allow for any metallic contact. The Unit consists, essentially, of a Micro-Porous Porcelain Filter Element with a glazed-on porcelain connector, encased in a Pyrex glass pressure vessel, forming a complete unit by means of a special stainless steel union assembly.

The inlet can be equipped for either Pyrex pipe or rubber hose connections, and the outlet can be direct connected to the receiving bottle so that there is no rubber contact after processing.

SELAS . . . no metallic contact . . . PRESSURE FILTERS are available in three (3) sizes with interchangeable porous porcelain filter elements in a complete range of porosities for all phases of pharmaceutical and biological filtration operations.



Illustrated is a GPT-210-P Pressure Filter with inlet connected to Pyrex pipe and outlet connected to receiving bottle by rubber hose.

Write for complete catalog

SELAS CORPORATION OF AMERICA
PHILADELPHIA 34 · PENNA

EPPENBACH
HOMO-MIXER

A MIXER FOR SOLVING YOUR PROCESSING PROBLEMS

The Homo-Mixer reduces particle size—increases total surface area—shortens batch cycles.

An efficient emulsifier and disperser—easily sterilized and cleansed.

Mixes in vertical planes—prevents stratification and dead spots—minimizes surface boil.

Available in laboratory, pilot plant and production sizes. Designed to fit your tank or kettle—or furnished with single shell, steam jacketed, electrically heated, oil bath or tilting type kettles.

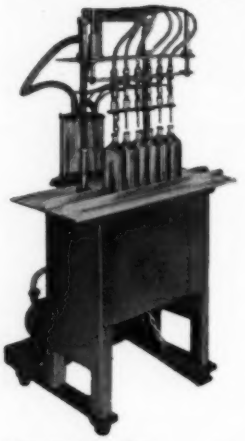
Vacuum and air tight installations quoted upon request.

Write for a copy of Catalog No. 402.

EPPENBACH INC.

45-10 Vernon Blvd. Long Island City, N. Y.

PRECISION
Universal Filling Machines
for **GRAVITY - VACUUM - PRESSURE**
No Changing of Valves Required
One Machine—for 3 Uses

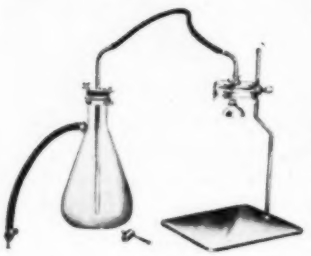


- No Dripping—Negligible Overflow—High Speed
- Universal Automatic Filling Valves
- Fills all types of solutions: free flowing—heavy—foaming
- Instant filling of liquid into bottles
- Exact adjustment to desired height in bottle
- All bottles filled uniformly
- For all size bottles
- Made to meet your requirements
- 2-16 Spouts

Inquire About Our:
Alco-Air Bottle Cleaning Units
Collapsible Tube Closing Machines
Jar and Tube Filling Machines
Automatic Hand Filling Valves
Bottle Emptying and Cleaning Units
Twin Air Cleaning Machines

Perl-Oussani Machine Mfg. Co.
72 JAY STREET, BROOKLYN 1, N. Y. • MAin 4-0165

ERTEL BACTERIAL RETENTIVE LABORATORY FILTERS



belong in every modern laboratory

DESIGNED TO AUTOMATICALLY PERFORM THE ALL-IMPORTANT FEATURE OF DOUBLE FILTRATION

Ertel Laboratory Filters are available in two models to meet varying laboratory requirements; 4" sheet size—1 liter 45 minutes; 7⅞" sheet size—1 liter 15 minutes. For larger capacities the Ertel pyrogen and bacterial retentive line of production filters will meet all requirements from one to ten liters of aqueous solution per minute. Pyrogen retentive units are manufactured in either stainless steel or in nickel, chrome or silver plated bronze.

One of the salient features of the laboratory unit is the built-in stone fibre eliminator which prevents filter sheet fibres from passing out of the filter. Simplicity of design permits easy cleaning. Make sure that your laboratory includes one of these versatile filters.

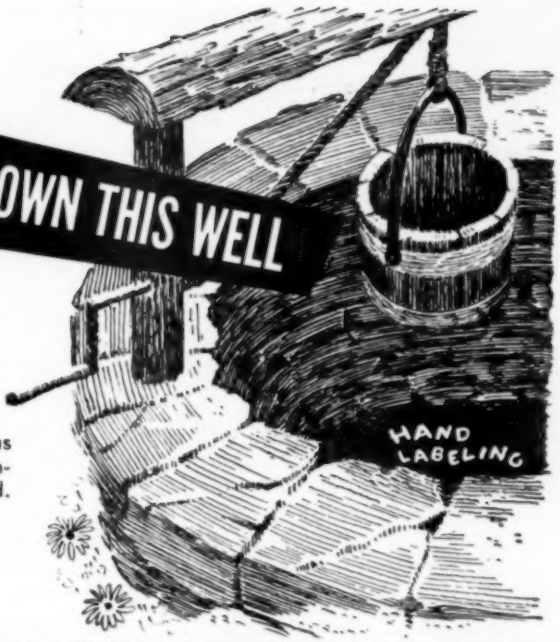
For further information on Ertel filters and other Ertel Liquid Handling Equipment, write for Catalog 15; no obligation.

ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK
New York City Sales:
40 West 48th Street, N. Y. 19, N. Y.

ERTEL

ASBESTOS FILTER SHEETS • ASBESTOS SHEET FILTERS
CYLINDER TYPE DISC FILTERS • PYROGEN FILTERS
VACUUM BOTTLE FILLERS • PUMPS • MIXERS • CAPPERS

DON'T THROW YOUR MONEY DOWN THIS WELL



Potdevin Labelers are a **one time** investment that will save you time every day, money every pay day. Initial price is low—installation costs nothing—any worker can operate a Potdevin. With daily cleaning and weekly lubrication your Potdevin lasts a lifetime.

And while you're writing for a Labeler—on 10 days free trial—consider a Potdevin Carton Gluer to speed up shipping operations. It's power driven—puts glue on carton flaps as fast as your men can handle them. Saves adhesives by controlling the glue film—applying it only where it's needed.

POTDEVIN

POTDEVIN

MACHINE CO.

1257—38th Street Brooklyn 18, N.Y.

Please send me a Potdevin Labeler on 10 days free trial—and details on Potdevin Carton Gluers.

Name and Title .....

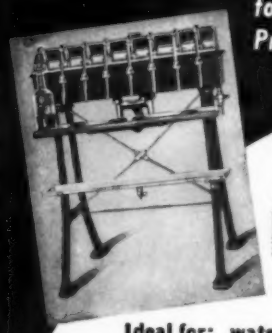
Company .....

Street .....

City ..... Zone ..... State .....

Filpaco SIPHON FILLER

for Medium and Small Production-Filling



Ideal for: water, acids, alcohols, light oils, chemicals, medicinals, liquid soap.

- **Fills all styles and sizes of containers ranging in size from 2 oz. to one gallon.**
- **Uniform filling of every container.**
- **No pumps required.**
- **Economical—Efficient—Durable.**

Write today for our illustrated literature.

Other "FILPACO" Products:

Filters, stainless steel storage and mixing tanks, fillers, pumps, conveyors, fittings, filter paper, filter cloth, asbestos pads and filter aids.

FILPACO

THE FILTER PAPER CO.

2428 South Michigan Avenue, Chicago 16, Ill.

COBY AMPOULES ARE

VACUUM FREE

Interior surfaces of COBY AMPOULES are free from the glass dust that ordinarily results from the snipping operation.

Special COBY process liberates vacuum, prior to snipping off characteristic bell-shaped top. Resulting glass particles are then readily drawn up and carried away by dust collectors.

Descriptive circular and price list of regularly stocked ampoules available on request. Write Dept. C.

THE COBY GLASS PRODUCTS COMPANY

Attleboro, Massachusetts, U. S. A.

Production Forum

(*Continued from page 681*)

Stokes Purity Indicator

The F. J. Stokes Machine Company, Philadelphia, Pa., announces the Stokes Water Purity Indicator for quick and accurate testing of distilled and de-ionized water for purity.

The Stokes Purity Indicator operates on the principle that the conductivity of water is directly proportional to its ion content, i.e., its degree of purity. This principle provides one of the fastest methods by which water purity can be determined.

Simple to operate, an easy, quick purity test daily, hourly, or whenever needed, can be made. It can be used for spot checking or for permanent installation.

Calibrated to zero for pure water and directly in terms of impurity content within the range of 0 to 30 ppm of sodium chloride, this portable, compact, heavy-duty tester can be plugged into a 110 volt, 60 cycle AC current source. Special models are available for other voltage characteristics.

Conductivity cells—glass dip cell for testing samples of distilled water in beakers, etc.; rubber dip cell for industrial use in testing purity of distilled water in storage tanks; and, threaded cell for permanent installation in tanks or piping systems—can be furnished.

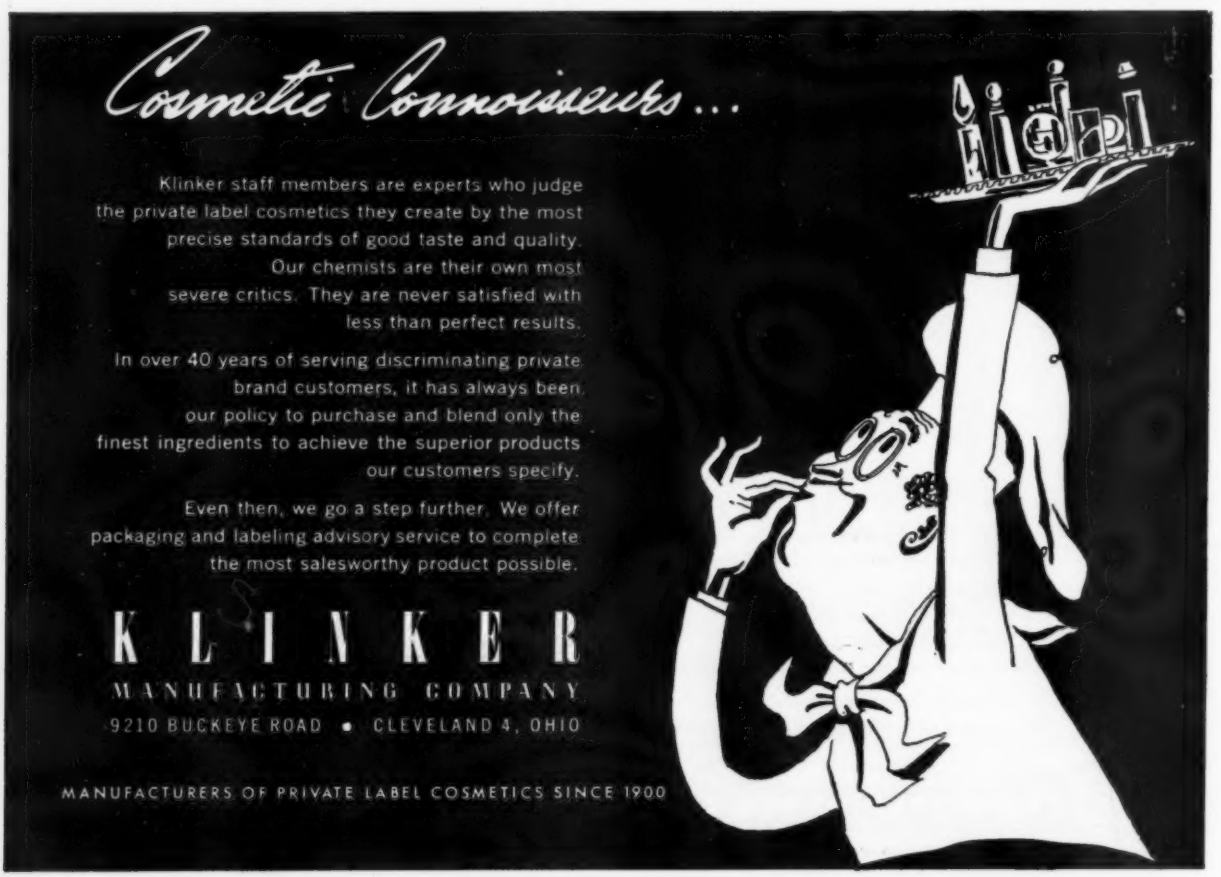
Descriptive literature and prices covering the Stokes Purity Indicator will be sent when requested by the F. J. Stokes Machine Company, 5900 Tabor Road, Philadelphia 20, Pa.

Lemon Grass Oil

(*Continued from page 641*)

the first six months of this year, Guatemala sent us 56,345 pounds. In Guatemala there are now said to be sixty-two growers of lemongrass for oil distillation. These producers are of various size, one of them operating a paper mill and using the spent lemongrass in the paper producing process. These sixty-two producers sell the oil as a unit through the Officina Controladora de Aceites Esenciales, an organization composed of all producers in Guatemala of lemongrass and citronella oils. This agency has its office and warehouse in Guatemala City, to which oils are shipped from the interior. Upon arrival every drum is examined and tested to be sure that it is of correct quality. An oil from one source of two drums or more is blended to assure uniform quality.

However, from September 28 to October 2, and from October 11 to 14, rainstorms in all but the northeastern section of Guatemala caused extensive damage. Estimates of the number of dead from these rains range from 500 to 2,000. Coffee and banana crop losses were estimated at 10 and 20 per cent, respectively, and the corn, bean, and rice crops suffered severely. It is a foregone conclusion that lemongrass production suffered


Cosmetic Connoisseurs...
Klinker staff members are experts who judge the private label cosmetics they create by the most precise standards of good taste and quality. Our chemists are their own most severe critics. They are never satisfied with less than perfect results.
In over 40 years of serving discriminating private brand customers, it has always been our policy to purchase and blend only the finest ingredients to achieve the superior products our customers specify.
Even then, we go a step further. We offer packaging and labeling advisory service to complete the most salesworthy product possible.
KLINKER
MANUFACTURING COMPANY
9210 BUCKEYE ROAD • CLEVELAND 4, OHIO
MANUFACTURERS OF PRIVATE LABEL COSMETICS SINCE 1900
Label

severely, but to what exact extent is not reported. However, in a strong rising market, with supplies from India in short supply and high price in, any damage to the crop in Guatemala only makes the situation so much worse.

Just what is the cause of curtailed supplies from the main source of India is not known in this country. When it is realized that India sent us 812,321 pounds in 1944, 1,147,720 pounds in 1945, 723,522 pounds in 1946, and then dropped to 432,000 in 1947, and to a low for at least the last ten years of 206,000 pounds in 1948, the reason for a strong market with exceptionally high prices is at once apparent. However, India sent us 247,230 pounds of lemongrass oil during the first half of this year—more than during the entire year of 1948.

But whatever the cause of the scant supplies from India, it is apparent that shippers there do not have sufficient supplies to fill the demands being made upon them. They certainly do not appear to be holding supplies back to boost prices. One importer reports that goods bought for August shipment from India were not available to the shipper in India and he told the importer to buy his supplies in the open market against him. The importer here did not want to do this and told the Indian shipper that he would wait until supplies were available. The Indian shipper was not able to dispatch the goods until October. Other importers state that the Indian shippers are refusing orders for large quantities, accepting only orders for relatively small amounts.

The only explanation that importers here give regarding the lack of supplies to meet the demand is that Europe is now back in the lemongrass oil market and is buying rather heavily. European industry has been coming back as the result of the aid given them through the Marshall Plan, and consequently they are entering the market to an increased extent for many commodities. This seems to be the condition in lemongrass oil, and apparently this increased demand seems to be forcing prices up but the Europeans apparently being willing to pay more for lemongrass oil than importers in this country are willing to offer.

The only bright side to the present situation is that the high prices now in effect should cause growing of lemongrass and distillation of the oil to be stimulated in the producing areas. These shippers and growers are probably convinced that the world consumption for lemongrass oil has definitely expanded and that a larger consumption can be counted on for future years. One of the factors in such a point of view would be the realization that large quantities of vitamin A will doubtless come from synthetic sources in future years, and that will add to the basic use of lemongrass oil in the long run. And while greatly increased supplies for next year or the year after do not help the consumers in the present market, they are a promise that the present situation will not continue indefinitely and that lemongrass oil will return to its normal position of a relatively low-priced essential oil before too long.

DENTIFRICE INGREDIENTS married with VEEGUM DON'T SEPARATE

Veegum, the new inorganic suspending and emulsifying agent, brings the following advantages to the newer type dentifrice formulations:

Veegum, even in small amounts, increases the water absorption and massing effect of tooth powders.

Veegum prevents creams from separating and bleeding in the tube.

Veegum has a delayed type acid neutralization value.

Veegum stabilizes cream viscosity.

Veegum is odorless and tasteless, hence it reduces the amount of flavoring oils normally required.

Veegum, because it is colloidal, stabilizes flavoring ingredients and maintains smooth cream consistency.

Veegum is completely free of any type of abrasive

Veegum has been accepted by The Council on Dental Therapeutics of the American Dental Association.

Write for your free work book of detailed Veegum properties and dozens of cosmetic and household formulation procedures.

R. T. VANDERBILT CO., INC.
SPECIALTIES DEPARTMENT
230 PARK AVE. NEW YORK 17, N. Y.

Patent Thoughts and Trends

By THOMAS CIFELLI, Jr., Patent Attorney*

PATENTED COSMETIC CREAMS AND LOTIONS—PART II

In last month's issue of this Journal a review of the expired U. S. patents dealing with cosmetic lotions and creams was presented. The present article will deal with a consideration of the unexpired U. S. patents relating to cosmetic creams and lotions. Unexpired patents are those which were issued less than seventeen years ago and hence still represent legal rights of the owners to exclude all others from making, using, and/or selling the subject matter covered by the claims of the patents.

While the limitations of reviews such as this one have already been pointed out, it is well to keep such limitations in mind, and hence they will be repeated again here. For one thing, while all the U. S. patents classified in class 167, sub-class 91, dealing with skin creams and lotions, will be considered, this review cannot be considered an exhaustive one. Further, even after a patent has run its seventeen years course, the Patent Office can still cite it against a new patent application, because it stands as a so-called teaching to all, and one must show that he has made an invention over the state of the art. This is true, whether the patents are of practical value or are valueless.

Unexpired U. S. Patents

U. S. 1,921,676, issued August 8, 1933 to Maxwell M. Kahn

The idea of this patent is to use rubber latex or similar material in a cleansing and massaging cream in order to increase the massaging effectiveness of the cream. As the cream penetrates and the water evaporates the dispersed rubber is said to form little lumps or nodules which roll over the skin, effectively massaging the latter and rolling out the dirt therefrom.

A typical claim follows:

A detergent composition of matter comprising a mixture of rubber latex dispersed in liquid phase and a metallic salt of a higher fatty acid and a sufficient quantity of alkali to keep the mixture alkaline, whereby, while said latex retains its coagulative property in said mixture it is prevented from coagulating until evaporation of the dispersing medium of the latex occurs.

U. S. 1,979,385, issued November 6, 1934 to Norman D. Harvey, Jr., assigned to Carbide and Carbon Chemicals Corporation

In order to avoid the alkalinity caused by the hydrolysis of the sodium or potassium soaps used in emulsified creams and also to avoid the undesirable stickiness and irritation of glycerol, this patent proposes to use non-irritating emulsifying agents such as the ethanolamines in conjunction with fatty acids, in combination with softening materials, such as polyethylene glycol monoalkyl ethers, as typified by diethyl glycol monoethyl ether.

Rather broad claim coverage was obtained, as may be seen from claim 1:

A cosmetic preparation containing an emulsifying agent comprising ethanolamines in conjunction with fatty acids, and and a polyethylene glycol monoalkyl ether.

U. S. 1,990,676, issued February 12, 1935 to Louis J. Stern

Stable cosmetic creams are made with natural citrus fruit juices by incorporating compounds produced by mild oxidation of cholesterin.

The claims are limited to the use of oxy-cholesterin, claim 1 being typical:

A stable cold cream consisting of a stabilized emulsion of a natural citrus fruit juice, oxycholesterin and an emolient.

U. S. 1,995,663, issued March 26, 1935 to Martin Bollmann, assigned to Winthrop Chemical Co., Inc.

Cosmetic preparations of better color, softness, and fineness, are said to be made by substituting salts of saturated fatty acids having an odd number of carbon atoms ranging from 7 to 17 for stearates, normally employed.

Claim 1 gives an idea of the coverage:

Cosmetic preparations containing an insoluble non-poisonous metal salt of an aliphatic acid as contains an odd number of carbon atoms of 7 C to 17 C.

U. S. 1,999,160, issued April 23, 1935 to Bruce Walton, assigned to Chas. H. Phillips Chemical Co.

What is said to be the first successful attempt to incorporate free magnesium hydroxide in a cleansing cream is the subject of this patent. The idea is to use a semi-colloidal normally solid suspension of magnesium hydroxide, a wax, and a viscous oily material. The magnesium hydroxide is employed in amounts ranging from about 0.5 per cent to 6 per cent. The preferred wax is white beeswax. The viscous oily material is preferably either a mineral oil or petrolatum or a mixture of both of these ingredients.

Claim 3 appears to be the broadest claim:

A cleansing cream which is solid at room temperature containing a substantial amount of magnesium hydroxide in semi-colloidal form, a wax, a viscous oil and water.

U. S. 1,999,161, issued April 23, 1935 to Bruce Walton, assigned to Chas. H. Phillips Chemical Co.

This is similar to U. S. 1,999,160, and deals with a cream comprising magnesium hydroxide, an oil, a high molecular weight alcohol containing at least 16 carbon atoms, a wax and water. The preferred alcohols are those of the cholesterol type.

Claim 3 follows:

An oil base skin cream comprising a substantial amount of magnesium hydroxide, a high molecular weight alcohol containing at least 16 carbon atoms, a wax and water.

U. S. 2,010,436, issued August 6, 1935, to John A. E. McClave and Dudley H. Grant, assigned to Stance Inc.

This patent tackles the problem of the breaking of emulsions from a rather

*Newark, N. J.

unique angle. It proposes to add a colored material to the emulsion so that if and when the emulsion breaks there will not be a noticeable difference in the color of the resulting phases. Obviously, the idea is applicable mainly to colored or tinted emulsions.

An idea of the method as well as the coverage is obtained from claim 1:

Process of coloring an emulsion which comprises adding both a color soluble in the continuous phase and a color soluble in the disperse phase of the emulsion.

U. S. 2,015,179, issued Sept. 24, 1935 to George McGraw, assigned to The Oakland Chemical Co.

Discloses stable creams containing hydrogen peroxide by employing the esters of isocholesterin and oxycholesterin with oleic, myristinic and carnaubic acids as the carrier for the hydrogen peroxide.

The patent has broad protection on this idea, as may be seen from claim 1:

An ingredient for a stable skin cleansing and purifying cream comprising hydrogen peroxide carried by a fatty mixture of the esters of isocholesterin and oxycholesterin with oleic, myristinic and carnaubic acids.

U. S. 2,023,125, issued December 3, 1935 to Barney J. Dryfuss and Eugene F. Aubry, Jr.

This patent proposes to use condensed buttermilk in face cream for its cleansing, mild astringent and stimulating effects on the skin. An idea of how this is accomplished is obtained from claim 3 which follows:

A face cream, comprising 30 to 90 per cent of condensed buttermilk having its protein content in substantially unhardened form, free lactic acid between 0.5 and 3 per cent, the balance of the product being composed chiefly of skin penetrant and unctuous material, and having the insoluble constituents of the cream emulsified with the water in the buttermilk.

U. S. 2,030,965, issued February 18, 1936 to Forest H. Clickner, assigned to Kraft-Phenix Cheese Corp.

This patent is based on the discovery that whey from which the lipoid fraction has been substantially removed constitutes a valuable emulsifying agent. It is claimed that egg white, which is normally of no value as an emulsifier, becomes substantially equal to egg yolk when the aforesaid whey is added to the egg white. A suitable fat solvent, such as isopropyl alcohol, is used to extract the lipoid fraction from the whey.

Claim 1 gives an idea of the protection:

An emulsifier for oil-water systems, comprising whey powder substantially free of lipoid.

U. S. 2,032,704, issued March 3, 1936 to Howard A. Kiernan

This patent proposes to provide substantially anhydrous face creams without employing congealing agents such as beeswax or paraffin. The idea is to combine an oil such as liquid petrolatum or olive oil, and a fat, such as prime stearine, stearic acid or spermaceti, so as to form a light, fluffy and smooth cream. The trick is to mix the ingredients in fluid state in a cooled container and rapidly cool the ingredients, to a temperature below room temperature.

Claim 2 is illustrative:

A cosmetic preparation comprising the product resulting from the process of intimately mixing prime stearine and liquid petrolatum and simultaneously subjecting the mixture to a cooling medium kept at lower than room temperature.

U. S. 2,085,693, issued June 29, 1937 to Phillip J. Byrne, Jr. assigned to Standard Oil Development Co.

High viscosity white oils which are used in medicinal and cosmetic preparations are made by incorporating small amounts of polymerization products of unsaturated hydrocarbons, such as isobutylene, to distillate of low viscosity.

U. S. 2,089,533, issued August 10, 1937 to Martin Bollmann, assigned to Winthrop Chemical Co., Inc.

This is similar to U. S. 1,995,663, but involves the use of the free saturated acids themselves instead of the magnesium or zinc salts employed in U. S. 1,995,663.

Claim 1 follows:

Cosmetic preparations of the group consisting of creams, creamlike and liquid powders, and lipsticks containing a saturated aliphatic monocarboxylic acid with an odd number of carbon atoms of 9 C. to 17 C.

U. S. 2,099,010, issued Nov. 16, 1937 to Max Firestein and Steven Ferentzy, assigned to Max Factor & Co.

This patent illustrates how honest-to-goodness scientific considerations can at times be at least as helpful to the cosmetic industry as some of the vivid imaginations of some of the ad copy writers.

The problem which was met by this patent was how to obtain colored motion pictures which gave realistic representations of flesh tones. It was found that the ordinary cosmetics employed for street wear were not satisfactory. A number of considerations had to be taken into account. For example, one of the reasons why photographic images of actors and actresses do not correlate the flesh tones is due to the fact that the human eye is normally more sensitive to the green portions of the spectrum than to the other portions of the spectrum. A panchromatic photographic emulsion, however, is most sensitive to the blue and violet portions of the spectrum.

Proceeding from the foregoing considerations, the inventors worked out special photographic make-up cosmetics, and their solution as well as an idea of a coverage the inventors obtained can be seen from claim 1 which follows:

A cosmetic adapted for use on humans to be photographed on panchromatic type emulsions, the cosmetic containing white and colored pigments in quantity and proportion sufficient to impart to said cosmetic a maximum light-reflecting characteristic in the neighborhood of the 6500 Angstrom unit band of the spectrum, and a light-reflective characteristic of between 70% and 85% of such maximum in the neighborhood of the 5500 Angstrom unit band, a light-reflective characteristic of between 55% and 75% in the neighborhood of the 4500 Angstrom unit band, and a light-reflective characteristic of between 25% and 40% of such maximum in the neighborhood of the 3600 Angstrom unit band of the spectrum.

U. S. 2,109,842, issued March 1, 1938 to Benjamin R. Harris

This patent is directed to the stabilization of emulsions of the water-in-oil type, such as vanishing cream, cold cream, etc. For this purpose the patent proposes the incorporation of materials designated as hydrophyllic lipins. If desired, the oily substance may be entirely replaced by these lipins. Examples of some of these lipins are the following:

1,6-dilauryl diglycerol
Mono melissyl ester of diethylene glycol
Mono oleyl diglycerol
Mono-abietic acid ester of triglycerol
Mono stearyl glycerol
Mono cetyl ether of glycerol
Mono oleyl glycerol
Di ethylene glycol mono-stearate

Claim 10 is illustrative:

A cosmetic emulsion comprising water, at least one polyhydric alcohol partially esterified with fatty acids of high molecular weight and also containing a small amount of substances of alkaline reaction.

U. S. 2,111,912, issued March 22, 1938 to Thomas Govett

According to this patent, the addition

(Continued on page 728)

GERARD J. DANCO, INC.

5 EAST 19th STREET • NEW YORK 3, N. Y.

Telephone: ORegon 3-6790 Cable Address: CODAN, N. Y.

ORIGINATORS OF NEW PERFUME TONES

Laboratories in New York, N. Y. and Grasse, France

FINE ESSENTIAL AND FLORAL OILS
AROMATIC CHEMICALS
MUSK • CIVET • AMBERGRIS

Exclusive Agents in the United States, Canada and Mexico for:
CAMILLI, ALBERT & LALOUE, S. A., GRASSE, FRANCE
ETABLISSEMENTS VICTOR HASSLAUER, S. A., PARIS FRANCE

CODAN

Sales Offices in New York, N. Y.—Montreal, Canada—Paris, France

QUALITY RAW MATERIALS

Our complete stocks guarantee that you can obtain the exact grade and quality for your requirements without delay.

BEESWAX, sunbleached and yellow
Refined U.S.P.

TRAGACANTH GUM, all grades

KARAYA GUM, all grades

STEARIC ACID, fancy triple pressed

QUINCE SEED, Persian, recleaned

also

SPERMACETI WAX CERESIN WAX
MENTHOL

and all other cosmetic raw materials. Samples on request

Write for latest stock list

WALTER H. JELLY & CO.

INCORPORATED

412 N. Western Avenue Chicago, Illinois

TRADE-MARK RECORD

for Perfumes, Toilet Preparations, Soaps

Covering All Trade-Marks in Class IV and VI

Soap Preparations
Perfumes
Cosmetics
Depilatories
Manicure Preparations
Foot Preparations
Permanent Wave Supplies
Hair Preparations
Men's Toilet Preparations
Tooth and Mouth Preparations
Miscellaneous

Over 35,000 trade-marks for quick reference and checking.

768 Pages. Price $25

DRUG & COSMETIC INDUSTRY

101 W. 31st St. New York 1, N. Y.

Industry's Books

Soaps and Detergents, by E. G. Thomssen, Ph.D., and John W. McCutcheon, M. A., F.G.I.C., 311 pp., Illus., MacNair-Dorland Co., New York, $9.

This is a completely new text taking the place of "Modern Soap Making," which has been out of print for several years. The only up-to-date American text on soap making, it is likely to have a ready welcome not only here but in many foreign countries. Continuous soap making processes, and the commercial production of synthetic detergents are among the more prominent new developments of the soap industry which are covered in this book. Soap perfumery and coloring, new equipment, processes and methods are also covered. The relatively new field of synthetic detergents is thoroughly discussed including a tabulation of about 250 surface active agents, their classification, trade names, manufacturers, and application. This book is designed for daily application in the soap industry,—a practical book for the practical soap maker.

Handbook of Chemistry, compiled and edited by Norbert Adolph Lange, Ph.D., Lecturer in Chemistry at Cleveland College of Western Reserve University, Assisted by Gordon M. Forker, B.S., General Electric Co., Seventh Ed., 1920 pp., Handbook Publishers, Inc., Sandusky, $7.

This up-to-date Seventh Edition of Lange's Handbook of Chemistry will be welcomed by Chemists, Physicists, Engineers, and Pharmacists who have found the previous editions and authoritative fact finding help in their work. Due to the nature of this handbook its coverage can best be conveyed by the following abridged table of contents. Elements: descriptions; atomic weights and numbers; periodic tables; radii of atoms and ions; isotopes; radioactivity; electromotive series; physical properties Inorganic Compounds: Table giving formula, melting point, boiling point, solubilities, refractive index, and other physical properties of more than 2600 different compounds with more than 1300 synonyms; comprehensive table of minerals. Organic Compounds: Table giving formulas, physical properties, etc., of more than 6500 different compounds with Beilstein references, indexed by name, formula, synonym and refractive index; tables of alkaloids, glucosides, hormones, fats and waxes, foods, vitamins, milk, blood, urine, natural resins. Analytical Chemistry: Outline for analysis, spot and flame tests; organic reagents, oxidation and reduction equations; volumetric and gravimetric factors; standard solutions; indicators; buffer mixtures; copper oxide sugar tables; solubility products; solubilities; true capacity of glass vessels; refractive indexes; microscopy; spectroscopy. Physical Chemistry: equations; symbols; dimensional formulas; thermochemistry; electrochemistry; constants of gases; viscosity; density; barometry; ionization constants; surface tension; fluorescence and phosphorescence; azeotropic mixtures; photography; laboratory arts; standardization of thermometers, viscosimeters, etc. Industrial Chemistry: materials of construction; alloys; ceramics; wood; plastics; synthetic rubbers; hazardous chemicals; wire tables; sieves and screens; thermocouples; flame temperatures; fuels, manufactured and natural gases; steam tables; cooling baths; humidity tables; hydrometers; tank capacities; conversion factors; densities of various solutions; industrial water; tables of alcohols, acids, etc. Tables: squares, cubes, square roots, cube roots, etc., of numbers; formulas from geometry; logarithms; Index: Twenty-five pages; more than 3000 entries.

Major Problems of United States Foreign Policy 1949-1950. Prepared by the Staff of The International Studies Group of the Brookings Institution, Washington, D.C., 492 pp., $3.

This volume is the third in a series of annual publications on problems of United States foreign policy, which constitutes a part of The Brookings Institution's broad program of research and education in the field of international relations. Major problems of United States Foreign Policy gives the reader: I—The position of the United States in World Affairs (A general survey of the broad world picture and of the position of the United States in world affairs.) II—Review of the Major Problems (A review of the major problems of foreign policy confronting the United States in mid-summer of 1949.) III—Selected Problem Papers (Detailed analysis of three current problems in substantially the manner in which problems are dealt with by government officials at the policy making level.) There is a general bibliography with special emphasis on the official documents and reports that constitute the primary sources in studying the current foreign policies of the United States.

Pharmaceutical Compounding and Dispensing, Edited by Rufus A. Lyman, M.D., Dean, College of Pharmacy, University of Arizona, 321 pp., J. B. Lippincott Co., Phila., $6.50.

This textbook in pharmaceutical compounding and dispensing is prepared by 12 recognized authorities in their respective fields and the material presented reflects efficient, practical organization and competent preparation. It is designed to comply with the many requests from pharmaceutical teachers and students for a basic and up-to-date book on dispensing. All pertinent data as they apply to modern pharmaceutical compounding and dispensing are discussed and demonstrated in this volume. This is one of the Lippincott American Pharmacy Series and is a practical and reliable addition to the literature in its field.

Technique of Beauty Products, a translation by A. R. I. C., of the original French Edition of Technique des Produits de Beaute, compiled by R. M. Cattefosse and Dr. H. Jonquieres, 178 pp., Leonard Hill Ltd., London, $4.50.

The first part of this work draws attention to the need for studying in general the physiology of the face, hands and skin. In the Second Part various types of beauty products are discussed such as cosmetic excipients, emulsions, dispersions, and suspensions, etc. Some of the new cosmetician's raw materials are dealt with in Part Three, for in-

(*Continued on page 714*)

YOUR TRADE-MARK RECORD

By JOHN H. GRAHAM
International Patent and Trade-Mark Consultant

WHAT'S IN A NAME?

The question regularly comes up in trade-mark matters as to just how far a trade-mark owner is protected against infringement, by someone modifying or repairing his goods. It's a very important question. It's one that does not apply to the toilet goods, cosmetics and drug industries perhaps as to more mechanical fields, but a recent case on this subject is worthy of serious discussion because of the clear and strong language used in supporting the trade-mark owner's rights. From it parallels in our own fields of endeavor can readily be drawn and a feeling of greater security for the trade-mark owner appears.

The world renowned Singer Manufacturing Co., makers of sewing machines, sued American Appliance Co. and others, because the latter were taking old "Singer" machines and modernizing them, then selling them presumably as new.

American's plan was to buy up old "Singer" sewing machines, rebuild them with parts not made or bought from Singer and sell them to the public with a statement that they are "Singer" machines rebuilt by American.

It is worthy of note that not only did Singer sue for infringing the "Singer" mark, but also for unfair competition since American was "palming off" the machines as modern Singer sewing machines.

By American's method of doing such business the public was led to believe that the machines were of much later date than was the fact, thus injuring Singer's reputation.

In a district court of Ohio, Judge Freed agreed with Singer's stand. It was conceded that the rebuilding was extensive. Fifty-year-old machines were electrified, had new sewing heads put on, were repainted and the more modern form of "Singer" was then added. Advertising was undertaken extensively describing the machines as "rebuilt Singer Electric portables," etc.

American stated that the public was fully informed that the machines were Singers rebuilt by American with the latter's parts.

In deciding for Singer, the Judge said in part that the harm to the public was obvious, since they were being deceived about the age of the machine and therefore some harm must exist to Singer by reason of public blame for any unsatisfactory performance.

The Judge did not prevent American from continuing its rebuilding, since under the law it has the right to repair, renovate or rebuild sewing machines, but enjoined it from now on to place the whole and complete history of renovation on each machine and once the name "Singer" has been removed it must never be restored.

This is an excellent decision heading in the right direction of putting strength in the value of a trade-mark.

Bandits Versus Brigands

In our salad days when we secretly enjoyed a good blood-thirsty yarn about pirates and such, we thought we knew the salient differences between brigands and bandits.

The Patent Office has other thoughts however, and uses Webster's Dictionary as a weapon on their side.

Consolidated Cosmetics got into conflict with Societe D' Etudes Et D'Expansion de la Parfumerie DeLuxe over the similarity of Brigand and Gay Bandit, both for perfumes, the latter being Consolidated's registered trade-mark.

Assistant Commissioner Daniels upheld the examiner in his refusal to register "Brigand" in view of the registered mark "Gay Bandit." It was held that without considering any suggestion of similarity in sound or appearance "Bandit" and "Brigand" are synonymous. Although a side by side comparison might not show likelihood of confusion, a purchaser relying upon recollection or recommendation might be confused, since in Webster's New International Dictionary the following definitions occur:—"Brigand: a lawless fellow who lives by plunder, esp., one of a gang living in Mediterranean mountain retreats; a bandit." "Bandit: an outlaw, hence a brigand; a lawless marauder, usually one of those in bands infesting districts of Mediterranean lands."

Ah me! I am glad I was not disillusioned too young. Perhaps some of those groan artists who "perform" on Video screens could use the names. The "Gay Bandit" versus the "Brigand." It would be a great wrestling bout—advertising departments please do not copy.

The following Trade-Marks were recently published in the Official Gazette of the United States Patent Office.

Amurol—VI—K—558,339
Amurol Products Co., Chicago, Ill.
Ser. June 3, 1948 D. U. Feb. 16, 1947

Babuloo—VI—B—399,943
Reg. Feb. 9, 1943 To V. Vivaudou, Repub. by Consolidated Cosmetics, Chicago, Ill.

Breck—IV—H—549,704
John H. Breck, Inc., Springfield, Mass.
Ser. Feb. 14, 1948 D. U. July 10, 1941

Caravane—VI—BC—547,158
Societe Anonyme, Bienaime, Paris, France
Ser. Jan. 15, 1948

Coral Fan—VI—CE—556,175
Chen Yu, Inc., Chicago, Ill.
Ser. May 4, 1948 D. U. December 1947

Den-Ter-Gent—IV—K—543,554
Abe J. White, Houston, Texas
Ser. Dec. 5, 1947 D. U. April 1, 1947

Derma-Veil—VI—C—550,297
Beautymasters of Beverly Hills, Inc., Milwaukee, Wis.
Ser. Feb. 21, 1948 D. U. Feb. 17, 1945

Desert Flower—VI—BC—263,058
Reg. Oct. 29, 1929 To C. E. Walton
Repub. by Shulton, Inc., N. Y., N. Y. & Clifton, N. J.

Elmo Special Formula—VI—C—537,-028
Elmo, Inc., Philadelphia, Pa.
Ser. Oct. 7, 1947 D. U. Since Nov. 1936

Fleur De Feu—VI—BC—569,320
Guerlain, Inc., N. Y., N. Y.
Ser. Oct. 23, 1948 D. U. July 27, 1948

Formula No. 99—IV—A—552,931
Armour and Co., Chicago, Ill.
Ser. March 25, 1948 D. U. June 1934

Freshy—VI—D—508,242
The Pharma-Craft Corp., N. Y., N. Y.
Ser. Aug. 29, 1946 D. U. July 15, 1946

Glover's Imperial—VI—H—483,526
H. Clay Glover Co., Inc., N. Y., N. Y.
Ser. May 18, 1945 D. U. Since 1887

"Golden Rays"—VI—S—506,175
Laboratories du Dr. N. G. Payot, Paris, France
Ser. July 24, 1946 D. U. June 27, 1933

Holiday—IV—A—547,773
Lee Rothschild, DBA Corona Soapcrafters, Redlands, Calif.
Ser. Jan. 22, 1948 D. U. Jan. 8, 1948

Inecto—VI—H—565,458
Sales Affiliates, Inc., N. Y., N. Y.
Ser. Sept. 18, 1948 D. U. Feb. 28, 1911

Irish Rose—VI—B—522,334
House of Westmore, Inc., N. Y., N. Y.
Ser. May 13, 1947 D. U. April 18, 1947

J. & J.—IV—A—568,627 (and des.)
Johnson & Johnson, New Brunswick, N. J.
Ser. Nov. 12, 1948 D. U. June 20, 1913

Jardines deEspana Perfumeria Gal—IV—A—557,767—(and des.)
Perfumeria Gal, S. A. Madrid, Spain
Ser. May 25, 1948 D. U. Sept. 23, 1947

Jergens—VI—BC—549,155
The Andrew Jergens Co., Cinn., Ohio
Ser. Feb. 9, 1948 D. U. Since 1893

Jungle—VI—BCH—334,173
Reg. Apr. 21, 1936 To Savage, Inc., Now Associated Dists.
Repub. by Consolidated Cosmetics, Chicago, Ill.

Kissable Look—VI—ABCDEHGS—566,-703
Leonard Friedberg, N. Y., N. Y.
Ser. Oct. 8, 1948 D. U. March 12, 1948

Krank's—IV—I—545,958
Consolidated Royal Chemical Corp., Chicago, Ill.
Ser. Jan. 2, 1948 D. U. October 1908

Krank—VI—CGH—543,891 (and des.)
Consolidated Royal Chemical Corp., Chicago, Ill.
Ser. Dec. 10, 1947 D. U. Since 1941

Kubak—VI—H—545,085
Consolidated Royal Chemical Corp., Chicago, Ill.
Ser. Dec. 22, 1947 D. U. Nov. 1, 1918

Leap Year—VI—B—563,761
J. Strickland & Co., Memphis, Tenn.
Ser. Aug. 19, 1948 D. U. Aug. 9, 1948

Lesquendieu—VI—BCDEHS—555,278
Lehn & Fink Products Corp., Bloomfield, N. J.
Ser. April 22, 1948 D. U. Since 1904

Life Oyl—VI—G—403,028
Reg. Aug. 31, 1943 To M. E. Wiggins, dba The Lifola Co., Tulsa, Okla.
Repub. by registrant

Lilt—VI—C—532,491
The Proctor & Gamble Co., Cinn., Ohio
Ser. Aug. 26, 1947 D. U. July 26, 1946

Mad—VI—ABCDEHGS—569,325
M.A.D. Products, Inc., Ramsey, N. J.
Ser. Nov. 18, 1948 D. U. Since 1910

Madam Martha D. Davis—VI—H—537,216
Florence E. Morris, Pittsburgh, Pa.
Ser. Oct. 8, 1947 D. U. Since 1923

Most Precious—VI—B—522,364
Evelyn Westall, N. Y., N. Y.
Ser. May 14, 1947 D. U. April 30, 1947

Pearls In Wine—IV—A—555,478
The Armand Co., Des Moines, Iowa
Ser. April 24, 1948 D. U. March 19, 1948

Perfumeria Gal Madrid—IV—A—556,-474 (and des.)
Perfumeria Gal, S.A. Madrid, Spain
Ser. May 7, 1948 D. U. April 10, 1923

Pigalle—VI—BC—508,236
Parfumerie & Savonnerie Gilot, Societe Anonyme, Paris, France
Ser. May 4, 1949 D. U. May 23, 1946

Perit—IV—A—202,725
Reg. Sept. 1, 1925 To Chas. W. Young & Co.,
Repub. by Grace B. Young dba United States Soap Mfg., Phila., Pa.

Princess Edwina—VI—BCDEH—569,-508 (and des.)
E. Crystal, DBA Princess Products, Newark, N. J.
Ser. Nov. 27, 1948 D. U. Nov. 4, 1947

Shi-Kar—VI—B—513,389
Count Dorelis, Ltd., N. Y., N. Y.
Ser. Nov. 29, 1946 D. U. Aug. 27, 1946

Spirittine—VI—D—552,889
Spirittine Chemical Co., Wilmington, N. C.
Ser. March 24, 1948 D. U. Since 1900

Star Fire—IV—A—561,291
Campana Sales Co., Batavia, Ill.
Ser. July 14, 1948 D. U. Jan. 13, 1948

Sur Les Aimes—VI—BC—547,162
Societe Anonyme, Bienaime, Paris, France
Ser. Jan. 15, 1948 D. U. Feb. 26, 1935

Sweet Escape—VI—B—406,589
Reg. Apr. 11, 1944 To Associated Dists.
Repub. by Consolidated Cosmetics, Chicago, Ill.

T and T Tooth Powder—VI—T—346,-586
Reg. June 1, 1937 To G. B. Terrell, dba T and T Tooth Powder Co.
Repub. by Consolidated Cosmetics, Chicago, Ill.

Tenesten—VI—H—569,381
H. D. Koenig & Co., Inc. DBA Anre, N. Y., N. Y.
Ser. Nov. 24, 1948 D. U. July 23, 1947

Too Lovely for Words—VI—B—442,-026
Reg. Feb. 8, 1949 To The Armand Co., Des Moines, Iowa
Repub. by registrant

Toy-Letries—VI—BC—554,252
Helene Pessl, Inc., N. Y., N. Y.
Ser. May 23, 1949 D. U. Jan. 22, 1948

Traveler—VI—BC—441,173
Reg. Oct. 26, 1948 To Olive Smith, assignor to Consolidated Cosmetics, Chicago, Ill.
Repub. by Consolidated Cosmetics

Vicarease—IV—A—558,184
Virginia-Carolina Chem., Corp., Richmond, Va.
Ser. May 29, 1948 D. U. April 17, 1948

Voodoo—VI—BCEH—363,746
Reg. Jan. 3, 1939 To Associated Distributors, Inc.
Repub. by Consolidated Cosmetics, Chicago, Ill.

West-Glo—IV—A—437,787
Reg. Mar. 30, 1948 To West Disinfecting Co., Long Island City, N. Y.
Repub. by registrant

Act of 1946

The following Trade-Marks have been recently republished under the terms of the above (Lanham Act). No opposition can be filed against them but they are all subject to cancellation proceedings.

Best & Co.—IV—A—439,582
Reg. July 6, 1948 to Best & Co., Inc., N. Y., N. Y.
Republished by registrant

Blush Rose—VI—C—290,207
Reg. Dec. 22, 1931 to Elizabeth Arden, Inc., N. Y., N. Y.
Republished by Elizabeth Arden Sales Corp.

Eye Sha-Do—VI—C—131,532
Reg. May 18, 1920 to Florence N. Lewis, Repub. by Elizabeth Arden Sales Corp., N. Y., N. Y.

Four Penny—VI—H—362,235
Reg. Nov. 15, 1938 to Four Penny Products, Co., Chicago, Ill.
Republished by registrant

L'Adore—IV—A—354,277
Reg. Feb. 8, 1938 to Sears, Roebuck & Co., Chicago, Ill.
Republished by registrant

Lilt—VI—BCDEH—267,841
Reg. Mar. 4, 1930 to P. E. Falkingham, Repub. by The Proctor & Gamble Co., Cinn., Ohio.

On Dit—IV—I—422,797
Reg. Aug. 13, 1946 to Elizabeth Arden Sales Corp., N. Y., N. Y.
Republished by registrant

Protecta—VI—C—249,634
Reg. Nov. 20, 1928 to Elizabeth Arden, Inc.
Repub. by Elizabeth Arden Sales Corp., N. Y., N. Y.

Softasilk—IV—A—134,966
Reg. Sept. 21, 1920 to The Hexter Stewart Corp., Co.
Repub. by The Gerson-Stewart Corp., Co. Cleveland, Ohio

They Say On Dit—VI—ABC—414,785
Reg. June 26, 1945 to Elizabeth Arden Sales Corp., N. Y., N. Y.
Republished by registrant

Treasurette—VI—C—172,732
Reg. Sept. 11, 1923 to F. N. Lewis, DBA Elizabeth Arden
Repub. by Elizabeth Arden Sales Corp., N. Y., N. Y.

Trisanite—IV—A—432,866
Reg. Sept. 16, 1947 to Oakite Products, Inc., N. Y., N. Y.
Republished by registrant

Versine—VI—K—406,605
Reg. Apr. 11, 1944 to M. E. Fesler, DBA Geo. C. V. Fesler Co., Present address Biloxi, Miss.
Republished by registrant

IN YOUR FACE POWDERS...

ARE YOU TAKING FULL ADVANTAGE OF THESE PROPERTIES OF

HORSE HEAD U.S.P. ZINC OXIDE?

OPTICAL
- High covering power
- Warm whiteness

PHYSICAL
- Fine texture
- Good oil absorption
- Superior adherence
- Good fluffiness
- Perfume fixative
- Easy to blend and tint

CHEMICAL
- Essentially neutral
- Amphoteric
- Exceptional purity
- Deodorizes by neutralizing perspiration

PHYSIOLOGICAL
- Mildly astringent
- Screens out sunburn rays
- Bacteriostatic action
- Soothing
- Non-toxic
- Protective

HORSE HEAD PRODUCTS

Specify U.S.P. Zinc Oxide made by—

THE NEW JERSEY ZINC COMPANY

Founded 1848

Products distributed by

The New Jersey Zinc Sales Company

New York · Chicago · Boston

Cleveland · San Francisco · Los Angeles

New Views on Vitamin A

(*Continued from page 636*)

moderate vitamin A deficiency in the United States, it is probable that such conditions are relatively rare. In the absence of clear clinical signs, it was noted, the only satisfactory evidence of vitamin A deficiency is probably the occurrence of subnormal dark adaptation which rapidly returns to normal after treatment with vitamin A. Low levels have been observed in a variety of diseases, particularly in febrile conditions and in certain liver disorders.

To this may well be added that low vitamin A levels may appear in conditions which cause impaired absorption or utilization of this nutritional factor. Among such disorders are chronic ulcerative colitis, celiac disease, obstructive jaundice, cystic fibrosis of the pancreas, intestinal tuberculosis and cirrhosis of the liver. In the presence of such conditions, it may be necessary to administer large doses of vitamin A in order to prevent the development of deficiency symptoms.

The physiologists have continued to study vitamin A and, of course, they have made a number of valuable contributions during recent years. For example, Callison and his associates[18] studied the availability of vitamin A from carrots and from sweet potatoes as indicated by the comparison of the results of bioassay with those from chemical determination. From their animal experiments it would appear that the laboratory rat does not utilize all of the carotine present in certain vegetables. The data showed that only 34 per cent was obtained from sliced carrot, 41 per cent from carrot puree, and 37 per cent from sweet potato.

In an editorial comment[19] in the *J.A.M.A.* on these observations it was remarked that this information naturally raises the question of the availability of nutrients in plant tissues in human nutrition. "It would appear advisable," concludes the editorial comment, "to revise the tables of food composition which are widely used by dieticians so that the factor of biologic availability is included in the calculations of requirements. The possible disparity between the quantity of nutrients eaten and the amount absorbed cannot be ignored."

Recent work has placed added emphasis on the interdependence of action among the vitamins. In addition to the previously mentioned relationship between vitamins A and E, there is new data on the connection between vitamin A and vitamin C. Thus, Mayer and Krehl[20] have observed that the typical signs of vitamin C deficiency appear under conditions of vitamin A deficiency in the rat, an animal not ordinarily requiring ascorbic acid in the diet. The addition of vitamin C to the vitamin A-deficient diet corrects the scorbutic symptoms. Others[21] have noted similar relationships between the two vitamins.

Considerable interest has been focused on the work done by Sherman and his associates[22] showing the favorable effects of high vitamin A intake on the life

span and reproductivity of rats. In their experiments it was found that in animals fed 3, 6 or 12 I.U. of vitamin A per gram of food, the weight-gain rate, the length of life and the "useful "part of the life cycle (e.g. from maturity to the onset of senility) were all increased at the highest level of vitamin A intake. Thus, the average life span of female rats on a diet of 3 I.U. of vitamin A per gram of food was 724 days, but when the diet contained 6 I.U. per gram, the animals averaged 801 days of life. However, when the vitamin A content was again doubled to provide 12 I.U. per gram of food, females lived to a ripe old age that averaged 830 days. Male rats were shorter-lived but the corresponding figures were equally impressive. It should be noted that the optimum level, as found in these experiments, was from five to ten times the amount of vitamin A required to protect the rat from all signs of pathology due to vitamin A deficiency and about four times the level generally accepted as the minimum required by this animal. It may also be noted that these spectacular gains were obtained largely by the use of the vitamin itself rather than by the pro-vitamin (carotene).

A more recent paper by these workers[23] also presents data which show clearly that quadrupling a minimum adequate allowance of vitamin A may increase the normal life span of rats by 10 to 12 per cent, and postpone the onset of old age.

As remarked in *Nutrition Reviews*[24] in a summary of these investigations, there thus appears to be a wide range between the amount of vitamin A required just to prevent the signs and symptoms of deficiency and the amount that leads to optimum health. However, it is also pointed out that at extremely high levels of intake, vitamin A becomes toxic in both experimental animals and in man.

The question of toxicity will no doubt loom larger as the use of vitamin A continues to expand. Normally, vitamin A may be considered to be relatively nontoxic. For example, the ratio of the quantity of vitamin A required daily to maintain optimum nutrition to the toxic dose is said[25] to be 1:7,500. It would seem, therefore, that there is a very wide margin of safety. Nonetheless, evidence of hypervitaminosis A have been recorded in the literature. For example, in the experiments conducted by Moore and Wang[26] the administration of large doses of vitamin A acetate produced retarded growth, rarefaction of bones and hemorrhage in young rats.

More recently, in his review on hypervitaminosis A, Mouriquand[27] cited experimental evidence, some of it going back as far as 1922, which suggests that the administration of vitamin A may have harmful effects if it is given in excessive doses and especially over long periods of time. The danger is particularly great in the presence of a poorly balanced diet. He notes that men who have eaten livers of polar bears and sea bears, which contain millions of units of vitamin A per pound, showed such symptoms of intoxication as excitation, extreme irritability, vertigo, headaches, vomiting and

(*Continued on page 698*)

Compounder's Corner

New Antiperspirant and Deodorant

In discussing their studies on a new antiperspirant and deodorant, I. W. Grote, J. M. Holbert and P. W. Cross (*J. Am. Pharm. Assoc.*, Scient. Ed. 38:593, 1949) call attention to the fact that there are three requirements for an effective underarm deodorant. First, the compound used must be an astringent, which will serve to block, partially or completely, the secreting gland and thus inhibit the formation of perspiration. Second, the compound must be antiseptic in nature and thus prevent putrefaction of perspiration with the formation of disagreeable odors, and third, the compound must be nonirritating under normal conditions of use. Astringency is promoted by a lowering of *p*H; however at a *p*H much below 3.0 there is apt to be tenderizing of the clothing and irritation of the skin.

The most satisfactory and widely used astringents are aluminum sulfate and aluminum chloride, both being markedly astringent, reasonably harmless to the skin in effective concentration, and adaptable to a wide variety of preparations. A serious drawback, however, is their acidity, which increases with hydrolysis. Many buffers and inhibitors, such as urea, oxides, and related compounds, have been tried to prevent rotting of fabrics which takes place when the acid salts of aluminum are used. Although these inhibitors are effective, in many cases the astringent chemical is selectively absorbed and retained in the clothing in an unbuffered form. Thus the use of a hot iron releases free acid from the fabric and quickly deteriorates the fibers.

If the buffer could be made an inherent part of the astringent molecule, however, this separation of inhibitor and astringent could not take place and any acid formed during hydrolysis would be neutralized by the buffer present in the compound itself. Investigations along such lines were carried out by these workers. Thus, in an attempt to prepare dihydroxy aluminum aminoacetate by a new method, aluminum chloride and sodium glycinate were mixed in concentrated aqueous solution. On warming the solution slightly, the entire mixture solidified to a jelly-like consistency, having no resemblance to the compound sought. However, upon investigation, the jelly was found to have a *p*H of somewhat above 3.0, would not rot cloth, and was nonirritant when applied to sensitive areas of the body.

It was therefore decided to further study this material. As part of this work, dichloro aluminum aminoacetate has been successfully compounded with various cosmetic bases and has proved to be an effective underarm anti-perspirant and deodorant. Such preparations have been used by approximately twenty people over a period of three years. There has been no evidence so far that such preparations tend to damage fabric or cause local skin irritation except in the case of one individual who appears to be sensitive to all aluminum-containing compounds. In view of these findings it is felt that the compound is worthy of further investigation.

Dry Shave Lotions

In a discussion on developments in shaving preparations, A. G. Arend (*Perf. & Essent. Oil. Rec.* 40:327, 1949) cites the influence of the electric shaver. He notes that the dry shave in its different forms is sometimes a little rough on the skin, but to overcome this there is an ample variety of pre-shave lotions. Most of these are composed of at least 50 per cent alcohol, with the additions of astringent compounds. Among these are capsicin and cantharidin, both already well known in pharmaceutical preparations as counter-irritants, but formic acid which has been suggested in some quarters must be considered with some caution. If too acidic, this acetic acid in the finished lotion might well attack and affect the sharpness of the fine blades. For this reason a low pH value only can be considered, and a maximum of 3.0 has been recommended. The "vinegary" odor becomes apparent if too much acetic acid is used in any case, and this can be masked by a selection of more pleasant fragrances. Sensitive skins require a stimulating lotion, and even although dry shavers might become more popular, quite a fair demand is likely to arise for these lotions. In addition to the compounds mentioned, Balsam of Peru remains an active stimulant, but more recently, benzaldehyde with hydrogen peroxide, with or without castor oil in small proportions, has been used. Preparation simply consists of mixing the balsam with the other constituents, depending on the solvent qualities of alcohol, and adding a dye, prior to bottling. Instead of 3 per cent of the balsam, 1 per cent of the clear oil of this product, or cinnamon, is sometimes substituted, and also 1 per cent of anisic aldehyde. For a limited demand, as the whole process is a cold one, a cylindrical mixer with measuring vessels located above, and an accurately regulated discharge valve, is all that is required.

Grease Paint Bases

According to a note in the *Chemist and Druggist* (152:475, 1949) most grease paint consists of three groups of constituents: the fat base, the white base (omitted for some colors), and the pigment. A typical formula for a fat base is:

Liquid paraffin	**20**
Ceresin	**25**
Wool fat	**5**

A white base may be made to the following formula:

Zinc oxide	**75**
Precipitated chalk	**10**
Kaolin	**10**
Talc	**5**

Anesthetic Lubricant

An anesthetic lubricating jelly which can be made in about one hour is described by H. W. Austin (*Bull. Am. Soc. Hospital Pharm.* 6:212, 1949), as follows:

"Nupercaine" hydrocloride	**0.5 Gm.**
Tragacanth, powdered	**1.5 Gm.**
Alcohol	**5.0 cc.**
Glycerine	**20.0 cc.**
Benzalkonium chloride ("Zephiran" conc. 12.8%)	**0.1 cc.**
Distilled water, to make	**100.0 cc.**

Suspend the tragacanth in the alcohol and to this suspension very rapidly add the rest of the ingredients dissolved in

70 cc. of the water. Stir vigorously for several minutes, add the benzalkonium chloride and enough water to make 100 cc. Stir again and allow to stand for about an hour when the swelling will be complete. The thickness of the product can be adjusted by varying the amount of the tragacanth.

Storage of Drugs and Medicines

In a symposium on the storage of drugs and medicines, T. E. Wallis (through *Chemist and Druggist* 152:433, 1949; also *Pharm. J.* 163:244, 1949) observes that the features of environment (the most fundamental subject in storage) which should be considered are: (1) Atmospheric humidity and type of soil; (2) temperature; (3) light; (4) oxygen of the air; (5) living agents of destruction; and (6) odorous commodities. With respect to the first point, he notes that if the humidity is over 75 per cent, it becomes dangerous in relation to storage. Under such conditions moisture is readily absorbed by certain chemical substances (including salts of penicillin); and by certain crude drugs (such as squill, gelatin, gentian and digitalis). When the humidity is low, water tends to be lost by some substances, and they effloresce.

For general storage, an ideal temperature is about 55° to 65° F. (10° to 14.5° C.) which, being slightly higher than the normal temperature for a great part of the year and being maintained constant day and night, reduces the humidity and minimizes the risk of sudden changes in humidity. Materials so stored therefore remain dry and tendency to attack by vegetable and animal organisms is reduced. For certain substances which are liable at ordinary temperatures to molecular change (such as insulin and penicillin), storage in a refrigerator is necessary.

Exposure to sunlight will remove the coloring-matter from many drugs, especially from those which contain chlorophyll; the glycosides of digitalis may be destroyed; the vitamins as a group are sensitive to light; the active constituents of rhubarb are orange yellow in color and gradually change under the influence of light to a pinkish tint. Several colorless substances, e.g., santonin, silver nitrate and phenol, acquire color by exposure to light.

Oxidation of many active principles is brought about by atmospheric oxygen, e.g., the resinification of the cannabinol of Indian hemp and the gradual loss of solubility in light petroleum of the abietic acids of colophony. Linseed oil and many volatile oils, notably oil of lemon and turpentine, resinify by exposure to the air. The unsaturated fatty acids of cod-liver oil break down by the action of oxygen causing both randicity and resinification of the oil.

Moisture, temperature and oxygen together encourage the development of many living organisms which feed upon the substances stored. Moulds of various kinds are the most important vegetable organisms, and animal pests include mites, silver fishes, moths, ants, small beetles and cockroaches. The most important factor in controlling these living organisms is moisture; without sufficient moisture protoplasm cannot retain its life and activity. A low temperature, about 0°C., is useful to prevent the development of organisms from spores and eggs, but it does not usually destroy them.

The arrangement and segregation of commodities is important where odorous materials form part of the stock. Substances such as valerian, garlic, and highly perfumed soaps must be separated from one another and also from other materials to prevent the communication of odors to other commodities, many of which readily absorb the odorous particles from the air and become contaminated.

Wallis states that the drafting of general rules for storage involves the following: (1) Construction of the storeroom or premises, (2) Protection from dust, (3) Shelving and its arrangement, (4) Packaging, (5) Inflammable substances. Rooms should have concrete floors and rounded corners; crevices should be filled in with cement. Wooden plank floors should be avoided and an equable temperature should be provided. Bags and sacks should be sterilized by heating to 150°F. (65°C.) for three or four hours or by thorough washing. Packages must be well closed and made of materials resistant to attack by insects and other destructive animals. Opaque or amber-glass containers must be used when light is deleterious to the contents. Inflammable substances must be kept in separate store well away from the main buildings. Poisons must be stored so as to comply with the legal regulations.

Iso Butyl *p*-Aminobenzoate as Sunscreen

In an item in the *Perfumery and Essential Oil Record* 40:338, 1949) it is noted that various substances have been employed as sunscreen agents, among them *iso*-butyl *p*-aminobenzoate, in a concentration of 1.5 per cent. This chemical compound absorbs or filters the ultraviolet energy to a very high degree in a comparatively small concentration and has been found to possess greater ultra-violet absorptive power than menthyl salicylate, which has been used previously in concentrations of 10 per cent. It is appreciated that this high percentage is not quite neutral, and different reports of allergic reactions have been published. So far, the small percentage of the *iso*-butyl *p*-aminobenzoate seems to be quite neutral in regard to irritation or allergic reaction.

Due consideration must also be given to an appropriate base for the sunscreening agent. After investigating many different vehicles, it was found that an alcoholic lotion with a film-producing agent appeared to be satisfactory. If a cream is desired, the following is offered as a formula for a sun-screen cream containing *iso*-butyl *p*-aminobenzoate:

Iso-butyl p-amino-benzoate	**1.5**	**per**	**cent**
Sesame oil	**15.0**	"	"
Greaseless absorption base	**25.0**	"	"
Lanolin (anhydrous)	**3.0**	"	"
Water	**55.4**	"	"
"Progallin P" pure (Antioxidant)	**0.1**	"	"

Dissolve the *iso*-butyl *p*-aminobenzoate and the Progallin P in the sesame oil, and the greaseless absorption base and lanolin, then warm to 45 to 50° C. Strain into the mixture separately, warm the water to the same temperature and add to the fats in a thin stream, perfume and pass through colloid or ointment mill, or homogenize.

New Antioxidant

It is well known that the naturally occurring substance, nordihydroguaiaretic acid, is a very effective antioxidant for animal fats whereas its effectiveness for vegetable oils, like most phenolic antioxidants, is not very great. In studies on agents more suitable for protecting vegetable oils, Y. Chang and O. Grisvold (*J. Rm. Pharm. Assoc.* Scient. Ed. 38:584, 1949) determined the antioxidant effect of 2,2′,3,3′-tetrahydroxy dimethyl biphenyl (T. D. B. P.) in lard, corn oil, and soybean oil, with and without the synergist citric acid, using the Swift stability method. Nordihydroguaiaretic acid (N. D. G. A.) was also tested under the same conditions. T. D. B. P. was shown to be considerably more effective in lard and corn oil than N. D. G. A. In the case of soybean oil, T. D. B. P. was slightly better than N. D. G. A.

POLAK'S
FRUTAL WORKS
INC.

ESSENTIAL OILS

AROMATIC CHEMICALS

PERFUME BASES

POLAK'S FRUTAL WORKS
INC.
36-14 35th St., Long Island City 1, N. Y.
Factory at Middletown, N. Y.
Stocks carried in:
Chicago San Francisco Los Angeles

New Views on Vitamin A

(Continued from page 695)

somnolence. Other observers have reported severe headaches, loss of weight and appetite, falling hair, and enlargement of the liver and spleen after the administration of excessive doses of vitamin A.

Another side of the picture is given by Gyorgy.[28] He points out that crude cod liver oil of relatively low vitamin potency is not a satisfactory vehicle for vitamins A and D. Thus, electrocardiographic changes and other toxic signs have been observed in infants receiving the usual relatively large doses of medicinal cod liver oil. In animals, incorporation of crude cod liver oil in the diet may lead to fatal liver necrosis. This "toxic" effect of the crude oil, says he, is due mainly to the presence of unnatural, unsaturated fatty acids which may be responsible for the destruction of vitamin E and perhaps other essential substances in organs and tissues. Hence, in the practice of vitamin A medication, it would seem advisable to substitute high potency fish oils (e.g. halibut, shark), fish oil concentrates or distillates, or carotene for the medicinal crude cod liver oil of low potency. These replacements, he observes, will permit the elimination of fish oil altogether or a considerable reduction of its intake.

Gyorgy also advises that in case of idiosyncracy to fish, carotene may replace the vitamin A concentrates obtained from fish oils. He observes that the transformation of carotene into vitamin A will cease before the toxic range of hypervitaminosis A is reached, even if excessive doses of carotene are given. Therefore, overdosage with carotene "will never entail toxic side-effects."

As was indicated earlier in this review, the animal organism can utilize various carotenes and carotenoids from plants; these serving as the provitamins from which vitamin A is made in the body. Provitamins A ordinarily are not found in large amounts in the healthy animal since they are transformed into vitamin A and are stored or used in that form. It is believed[2] that the transformation of provitamins occurs only in the liver. The provitamins of the diet are, in general, less well absorbed from food than is vitamin A. In addition they are more prone to undergo oxidative destruction in the intestinal tract. Methods for extracting carotene from plant materials are well established.[7] In addition improved methods for preparing carotene or provitamin A are often discribed in patents.[29-30]

As is evident from Butler's[7] comprehensive report, the fish liver oil industry is quite an extensive one. Various processing methods have been devised and perfected. In addition, efficient procedures for concentrating vitamin A have been developed; concentrates being generally considered as containing 200,000 U.S.P. units or more per gram. Concentration is usually done by molecular distillation or by saponification. The molecular distillation method, developed after long and careful experimentation, is claimed[31] to

yield vitamin A concentrates in the natural ester form that are inherently more stable than saponified vitamin A concentrates. In addition, the natural antioxidants present in the oil are concentrated in the same fraction with the vitamin A esters.

(To be concluded)

BIBLIOGRAPHY

1. Woods, R.: Borden's Rev. of Nutrition Res. 8:1, March, 1947.
2. Anon.: Nutrition Rev. 4:67, March, 1946.
3. Vonachen, J. R.: Illinois Med. J. 86:258, 1944.
4. Harris, L. J.: Brit. Med. J. 2:681, 1947.
5. Ellenberger, H. A., Guerrant, N. B. & Chilcote, M. E.: J. Nutrition 37:185, 1949.
6. Caldwell, A. L. (Chairman): "Report of the Committee on Vitamins and Nutrition." Washington, Am. Drug Mfrs. Assoc., June 7, 1948. 7 pp.
7. Butler, C.: "The Fish Liver Oil Industry," Fishery Leaflet 233, Washington, Fish & Wildlife Service, 1948 pp. 60-3, 72-7, 81-4.
8. Carr, F. H. & Price, E. A.: Biochem. J. 26:497, 1926.
9. Sobel, A. E. & Werbin, H.: Ind. & Eng. Chem., Anal. Ed. 18:570, 1946, ibid 19:107, 1947.
10. Chichester, D. F.: Drug Trade News 24:39, Oct. 3, 1949.
11. Morton, R. A. & Stubbs, A. L.: Analyst 71:348, 1946.
12. Oser, B. L. & Blitz, M.: Abstracts of Papers, 116th Meeting, American Chemical Society, Sept. 19, 1949, p. 2A.
13. Chilcote, M. E., Guerrant, N. B. & Ellenberger, H. A.: Anal. Chem. 21: 1180, 1949.
14. Goodhart, R. S.: Postgrad. Med. 5:191, 1949.
15. Anon.: Nutrition Rev. 7:234, 1949.
16. Medical Research Council: (through) Pharm. J. 162:452, 1949.
17. Editorial: Am. J. Digest. Dis. 16:306, 1949.
18. Callison, E. C., Orent-Keiles, E., Frenchman, R. & Zook, E. G.: J. Nutrition 37:139, 1949.
19. Editorial: J. A. M. A. 140:1160, 1949.
20. Meyer, J. & Krehl, W. A.: Arch. Biochem. 16:313, 1948.
21. Editorial: J.A.M.A. 138:1042, 1948.
22. Sherman, H. C. et al: Proc. Nat. Acad. Sciences 31:107, 1945.
23. Sherman, H. C. & Trupp, H. Y.: J. Nutrition 37:467, 1949.
24. Anon.: Nutrition Rev. 7:293, 1949.
25. Anon.: Nutrition Rev. 5:49, 1947.
26. Moore, T. & Wang, Y. L.: Biochem. J. 39:222, 1945.
27. Mouriquand, G.: Presse Med. 56:738, 1948.
28. Gyorgy, P.: Am. Practitioner 2:79, Oct., 1947.
29. Petering, H. G. & Petering, W. H.: U. S. Pat. 2,482,635, 1949.
30. Lange, W. & Folzenlogen, R. G.: U. S. Pat. 2,484,040, 1949.
31. Anon.: "Distilled Vitamin A and E concentrates," Rochester, Distillation Products, Inc., 1949, 11 pp.

DEODORANT COLOGNE: Will you please send me a formula that will help me make a deodorant cologne such as are growing in popularity. San Francisco

I think you will find that a formula such as the following will probably serve your purposes:

Aluminum aceto-tartrate	**8.0**	**per cent**
Glycerine	**5.0**	**" "**
Eau de cologne	**20.0**	**" "**
Water	**67.0**	**" "**

Dissolve the tartrate in the water, add rest of ingredients. Filter.

DYES FOR FOODS AND DRUGS: Kindly send us information regarding dyes for foods and drugs. Detroit.

I suggest you write to the various color manufacturers advertising in DRUG & COSMETIC INDUSTRY. It might be advisable to write to the Federal Security Agency, Food & Drug Administration, and ask for a copy of the publication "Coal Tar Color Regulations." Concise and valuable data has been provided by W. H. Peacock under the title "The Application Properties of Certified Dyes." This is available from Calco Chemical Division, American Cyanamid Company, Bound Brook, New Jersey, under the title "Calco Technical Bulletin #539." Furthermore, I would suggest that you read the section on cosmetic colors in De-Navarre's "The Chemistry and Manufacture of Cosmetics." This book is available from our book department.

DON'T BE ASLEEP AT THE SWITCH

New developments in the field of the Steroid Hormones can be turned into profitable sales for your company.

Desoxycorticosterone Acetate U. S. P. the synthesized hormone of the adrenal cortex, is one of the new developments. Vitamerican offers Desoxycorticosterone Acetate in bulk for processing into solutions — in either oil or propylene glycol — suspensions or pellets for implants.

OTHER V.O.C. PRODUCTS

PROGESTERONE	CHORIONIC GONADOTROPIN
TESTOSTERONE	SERUM GONADOTROPIN
TESTOSTERONE PROPIONATE	ESTROGENIC SUBSTANCE
METHYL TESTOSTERONE	VITAMIN A OILS, VITAMIN A CONCENTRATES

Don't snooze at the switch...get in touch with

VITAMERICAN OIL CORPORATION

FINE CHEMICALS, HORMONES, VITAMINS

1 JOHN STREET, PATERSON 2, NEW JERSEY

Your Best Source

Aromatic Chemicals

Basic Perfume Materials

Years of painstaking research enable us to offer a superior line of perfume materials designed for the discriminating perfumer. Our knowledge is at your disposal. Full information supplied upon request.

SEELEY QUALITY IS STANDARD QUALITY

SEELEY & CO., INC.

136 LIBERTY STREET NEW YORK 6, N.Y.

Factories & Warehouses

NYACK, N. Y. LOS ANGELES, CALIF.

Advancing Therapy

Antihistaminic Ointment vs Itching

In the *New York State Journal of Medicine* (49:1179, 1949), A. J. Philip reports that a total of 85 unselected cases of various types of itching dermatoses were treated with an ointment containing 2 per cent of diphenhydramine hydrochloride an antihistaminic agent. Fifteen control cases were treated with a similar ointment containing no medication. None of the control patients received complete relief. Of the treated cases 51.8 per cent obtained complete and lasting relief, 21.1 per cent received partial (less than 50 per cent) relief, and 27.1 per cent had little or no relief. The types of dermatoses particularly amenable to the treatment were neurodermatitis and contact dermatitis, with 84.8 and 86.7 per cent of cases completely relieved, respectively. All patients had been treated previously with various locally applied drugs, without permanent relief. Soap and water were not used; the skin was cleansed with mineral oil. The ointment was rubbed into the affected areas at least two times a day. No irritation or sensitivity was observed, and the absence of toxic effects indicated a local action.

Pyrogens from Various Sources

New information on pyrogens, the bane of parenteral fluid producers, was given by D. W. Wylie and J. P. Todd at the recent British Pharmaceutical Conference (through *Chemist & Druggist* 152:501, 1949). They note that whether bacteria in general produce the same pyretic substance or each bacterial species a specific pyrogen is not yet known. During their investigation of pyrogen they have discovered several variations, such as different types of fever curves following injections of modifications of the same culture, and variations in stability of pyrogen from different bacterial sources, when heated at 120° C.; these suggest that different pyrogens exist. The results show that certain bacteria probably produce two pyretic substances, one of which, in the viable culture, is dissolved in the medium and stimulates the single-peak fever of the immediate reaction type, and the other is contained mainly in the bacterial cell and stimulates the single-peak fever of the delayed reaction type, a mixture of both causing the double-peak fever. *Proteus vulgaris* and *P. fluorescens* can produce a volatile depressant substance, which either lowers the body temperature to below normal, or prevents the pyrogen from causing a rise in body temperature. This depressant causes general paralysis if injected in sufficiently large doses; in smaller quantities the most obvious effect is the loss of appetite. It has been shown that any pyrogen test followed by the rabbits refusing to eat for a few days should be examined for other effects of the depressant substance, and should be repeated, taking care to heat the solution to between 30° and 40° C. for about 10 minutes before injection. 95 per cent of the pyrogens of *P. vulgaris*, *Ps. aeruginosa* and *B. subtilis* is destroyed after two hours' heating at 120° C. Further investigation would be of little value unless carried out on the pure pyretic substances isolated from various bacterial sources.

New Treatment for Superficial Mycoses

L. Schwartz, M. Robinson and J. Q. Gant (*Indust. Med.* 18:257, 1949) have obtained superior results in cases superficial mycosis through the use of a combination of the fungicide, salicylanilide ("Shirlan" extra) and a surface active agent of the cationic type ("Hyamine 3258") in isopropyl alcohol, as in the following formula:

Salicylanilide	**5 per cent**
Surface active agent	**1 " "**
Isopropyl alcohol	**94 " "**

Isopropyl alcohol was considered especially suitable because it has dehydrating and penetrating properties, and in addition is antiseptic and fungicidal. Alcohol is also volatile and evaporates soon after application leaving the salicylanilide and the surface active agent deposited on and in the pores and crevices of the dehydrated skin.

The solution can be applied with a pledget of cotton on an applicator or with a small brush. The feet and interdigital spaces should first be cleaned, dried, and freed of dead skin, and the fissures exposed. Small vesicles may be antiseptically opened. The fungicidal solution is then applied and the part left uncovered until the solvent evaporates. There is an immediate relief or marked lessening of the pruritis. The application may be made twice daily, morning and evening. As a prophylactic measure after the case is cured it can be applied every other day.

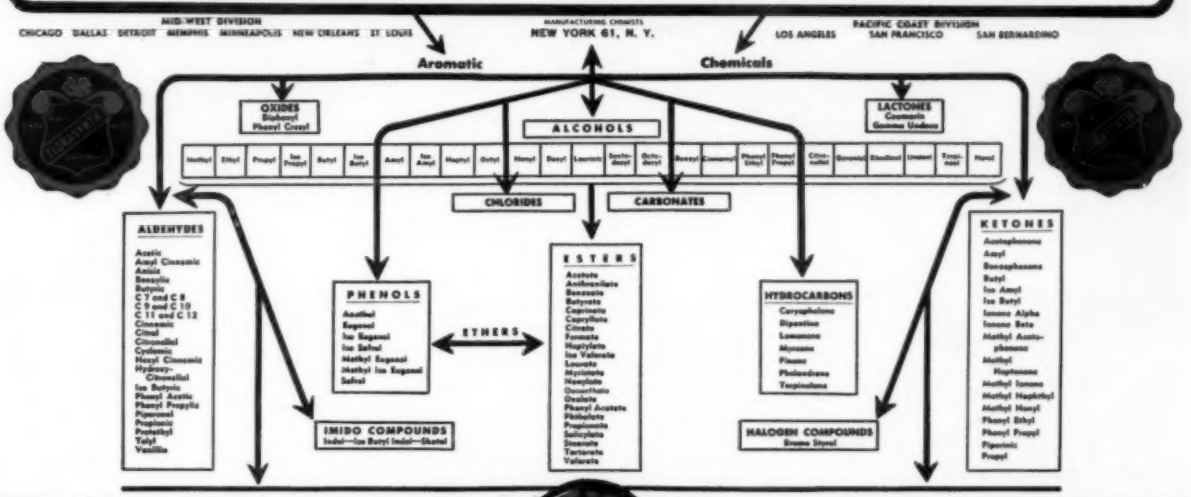
Schwartz and his associates report that of 50 successive cases of superficial fungus infections treated with this solution 43 cases were clinically cured, and seven were improved. Of 38 cases of tinea pedis of varying degrees of severity, 36 were clinically cured in an average time of less than three weeks. The other two cases were much improved. Four out of five cases of tinea cruris were clinically cured in an average time of 12 days. Four cases of onychomycosis improved, but were not cured in from one to four months of treatment.

Antihistamines in Asthma

The beneficial action of antihistamines in hay-fever, perennial rhinitis, and urticaria is undisputed, but their use in human asthma has been doubted. In a report in the *British Medical Journal* (2:901, 1949) H. Herxheimer presents evidence that these drugs are of considerable value in the treatment of this condition. Commenting on the work of other investigators, he remarks that, unfortunately they used weaker antihistamines in small amounts, and tried them on a few patients only. He has found that the strongest antihistamines if used in sufficient dosage, are able to suppress induced bronchial obstruction if it is mild—e.g if it does not depress the vital capacity by more then approximately 30 per cent. If a severe attack is induced the protection becomes partial or fails altogether. An acute asthmatic attack remains unaffected by these drugs.

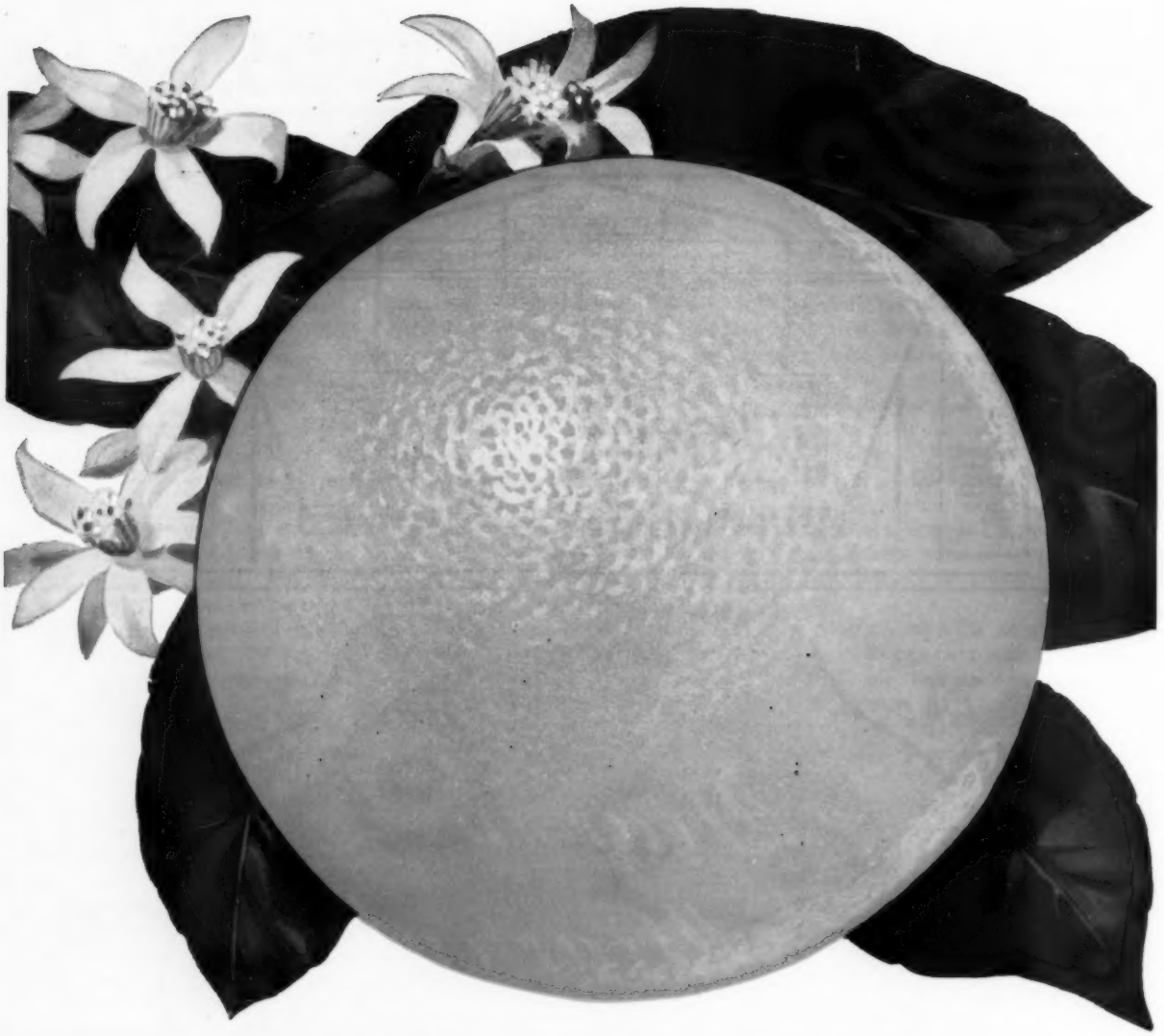
On the basis of his experimental and clinical experience, Herxiemer has come

FLORASYNTH LABORATORIES, INC.



Florasynth LABORATORIES, INC.
CHICAGO 6 · NEW YORK 61 · LOS ANGELES 13

DALLAS 1 · DETROIT 2 · MEMPHIS 1 · NEW ORLEANS 13
ST. LOUIS 2 · SAN BERNARDINO · SAN FRANCISCO 11
Florasynth Labs. (Canada Ltd.)
Montreal · Toronto · Vancouver · Winnipeg
Florasynth Laboratories de Mexico S. A. — Mexico City



THE WORLD'S FINEST ORANGE OIL

Made exclusively from oranges from the Sunkist Groves of California.

Exchange Oil of Orange gives you more *real orange flavor*, drop for drop or pound for pound, than any other orange oil.

Give it all your tests for *quality, uniformity* and *strength.* Then you'll buy Exchange Brand.

Distributed in the United States exclusively by
FRITZSCHE BROTHERS, INC.
76 Ninth Avenue, New York 11, N. Y.
DODGE & OLCOTT, INC.
180 Varick Street, New York 14, N. Y.
Distributors for:
CALIFORNIA FRUIT GROWERS EXCHANGE
PRODUCTS DEPARTMENT, ONTARIO, CALIF.
Producing Plant:
The Exchange Orange Products Co., Ontario, Calif.

Exchange
OIL OF
ORANGE
U. S. P.

to the conclusion that the antihistamines constitute a definite improvement in the treatment of some kinds of chronic asthma. They are the best agents available for night-time administration, and, if they are combined with ephedrine in the daytime and aleudrine (isopropylnoradrenaline) or aminophyllin to cut short acute superimposed attacks, the success achieved is worth the laborious process of determining the optimum dosage, which may require weeks of patient observation.

Bacitracin in Skin Infections

In their report in the *Medical Annals of he District of Columbia* (18:236, 1949) F. J. Eichenlaub and M. A. Olivio state that they have treated 50 patients with pyogenic dermatoses by local application of bacitracin. The antibiotic, a neutral, filtrable, water-soluble substance, was used either in form of ointment, 500 units per gram in a water-miscible base, or combined with starch and zinc oxide to form a paste. Patients were instructed to soften and remove the crusts of impetigo and ecthyma by soaking with boric acid solution, and after this the drug in ointment form was rubbed into the lesion. Patients with dermatoses associated with pronounced weeping were instructed to use boric acid compresses before applying the paste three times a day. The results in the treatment of 11 patients with impetigo and of 9 patients with ecthyma with bacitracin ointment were excellent, even dramatic on occasion. In secondary infections complicating various dermatoses in 18 patients, bacitracin acted rapidly in elim nating the pyogenic infection. Four of 6 patients with infectious eczematoid dermatitis were cured, and 2 were improved. Three of 6 patients with folliculitis barbae were improved, but the drug was ineffective in 3 others because of deeper folliculitis. An eczematous contact type of dermatitis occurred in 2 of the 50 patients. Reaction to a patch test was positive after eighteen hours in 1 of these. Forty-four of the 50 patients were definitely improved or cured in one to two weeks.

Garlic in Gastrointestinal Disorders

Although the value of garlic as a carminative has been recognized since ancient times, F. Damrau and E. A. Ferguson (*Rev. Gastroenterol.* 16:411, 1949) point out that few scientific reports on its mode of action have been reported. They note that, in 1940, Cushny had suggested that the carminative oils cause a sensation of warmth on passing into the stomach; this is accompanied by a sense of well-being and comfort, and any feeling of distention after meals is relieved. This is often attended by eructation of quantities of gas. These workers believe that their studies have confirmed Cushny's theory. A preliminary roentgenographic study was undertaken to determine the effect of dehydrated garlic on gastrointestinal motility by comparison of the opaque residues with and without the garlic. They describe clinical studies and present reports which are representative of therapeutic results with complete symptomatic relief obtained with dehydrated garlic tablets In this form garlic is highly effective for relief of heaviness after eating, (epigastric and abdominal distress) belching, flatulence, gas colic and nausea. Satisfactory therapeutic results were obtained in cases of flatulent dyspepsia, nervous dyspepsia and other gastric neuroses. Roentgenographically a comparison of films of patients with and without the medication demonstrated that dehydrated garlic has a sedative action on the stomach and intestines, relaxes spasm, retards hyperperistalsis and disperses accumulations of gas. It is believed that these studies explain the carminative action of garlic as due to unidentified principles which have been designated as gastroenteric allichalone. Since dehydrated garlic tablets are safe for long-continued use, they may be prescribed in a wide variety of functional disturbances of the stomach and intestines.

Comparison of Vitamin D Preparations

In a comparative evaluation, K. Glaser, A. H. Parmelee and W. S. Hoffman (*Am. J. Dis. Child.* 77:1, 1949) studies the efficacy of four vitamin D preparations in preventing rickets and allowing normal growth in 166 premature infants for the first eight months of their lives. The preparations were: (1) vitamin D_2 made by electron bombardment of ergosterol, (2) viosterol, which is vitamin D_2 made by ultraviolet irradiation of ergosterol, (3) crystalline vitamin D_2 and (4) "delsterol" (vitamin D_3), made by irradiation of 7-dehydrocholesterol. The dosages used were 100 units, 200 units, 400 units and 800 units daily. No clinical rickets were observed. Gain in weight and length was good in all 166 infants, regardless of the dosage or the type of vitamin D used. There appeared to be no difference in the efficacy of the vitamin D preparations in preventing rickets or in allowing growth. Though 100 units of vitamin D is a satisfactory prophylactic dose for most premature infants, 400 or 800 units daily allow a greater margin of safety in cases of illness or temporary neglect.

Penicillin for Diphtheria Carriers

The diphtheria carrier problem, says J. T. Y. Shen (*Pediatrics* 4:188, 1949) is particularly important in regard to children because of the following facts: 1. High incidence of diphtheria cases, mortality and susceptibility in children. 2. Peculiarity of the anatomy of the throat and nasal passages in children favoring the establishment and maintenance of the carrier state. 3. Technical difficulty in treating children because of their lack of cooperation. The incidence of diphtheria carriers is low without epidemics, but rises rapidly when epidemics occur. In spite of the dramatic drop of the incidence of diphtheria cases in this country, there is a definite increase of the carrier rate in New York City and in the State of Ohio. The highes incidence occurred among the age group between 5 and 14.

A diphtheria carrier is a person who is immune to diphtheria infection but harbors the virulent diphtheria organisms.

Numerous different methods have been tried to cure diphtheria carriers without uniformly successful results, but, according to Shen's findings, penicillin may solve this problem. He found that in simple cases of diphtheria carriers intramuscular penicillin is highly effective. Five thousand units per pound of body weight per day for five days seems to be curative. Procaine penicillin is preferable because of its convenience of administration and its more sustained level. Local sprays or nose drops can be employed along with parenteral therapy whenever their use is practical. A solution with 10,000 units per cubic centimeter is recommended. All carriers should have a thorough nose and throat examination by an otolaryngologist. Serious nose or throat pathology should be corrected surgically after one or two days of penicillin administration. Mild pathology should also be corrected surgically with the administration of penicillin in cases where the infection refuses to clear up or recurs after discharge. In cases that have recurred without any nose or throat pathology, a sensitivity test of the organism should be done and the dosage of penicillin adjusted. If the organisms are resistant to penicillin, other methods should be tried.

BENJ. FRENCH, INC.

ESSENTIAL OILS -- AROMATIC CHEMICALS

DESCOLLONGES
PRODUCTS

DORELIA C

A very effective base for modern bouquets, imparts an original and most interesting note reminiscent of ripe cherries.

HIERATOL

Another interesting base with a warm and very persistent odor of incense.

160 Fifth Avenue *New York 10, New York*

THE SEARCH *is always* FOR SOMETHING BETTER!

CHOLESTEROL IN ITS MOST ACTIVE AND EFFICIENT FORM

the AMERCHOLS are *Naturally* better

NON-IONIC EMULSIFIERS, EMOLLIENTS AND PENETRANTS

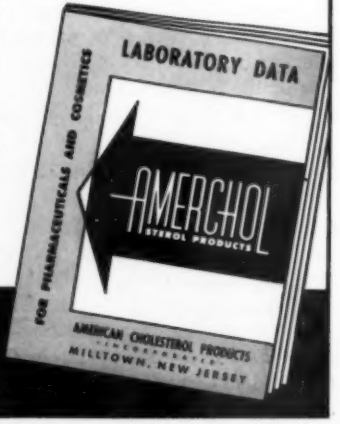
The AMERCHOLS are surface-active agents which are Naturally good for the skin. Of Natural Origin, they represent odorless, color-free forms of cholesterol and related rare sterols which we isolate in purified form from animal tissues. They are stable in the presence of acids, alkalies and most drugs.

WE KNOW OF NO CASE OF ALLERGY DUE TO AN AMERCHOL

For complete information write on your company letterhead for your copy of our technical booklet. Contains valuable data on the use of the Amerchols in O/W and W/O emulsions. Formulas for all types of creams, lotions, hair preparations, etc.

Our Research Laboratories are available to you for advice and information at all times.

Have you tried AMERCHOL L-101 Liquid Cholesterol Penetrant for your hair preparations?



AMERICAN CHOLESTEROL PRODUCTS
• INCORPORATED •
MILLTOWN — NEW JERSEY

READERS' QUESTIONS

HAND CREAM: Will you please suggest a formula for a hand ceram? This cream should be firm in consistency and when rubbed into the hands should give no soapy appearance and leave no fatty "after-feel." New York.

I think that the following formula will form a good basis for preparing a hand cream to meet your requirements. It can be modified readily to meet specific needs.

Stearic acid	**18.0**	**per cent**
Cetyl alcohol	**2.0**	" "
White odorless cocoa butter	**3.0**	" "
Triethanolamine	**1.5**	" "
Glycerine	**13.0**	" "
Alcohol	**7.0**	" "
Perfume	**0.5**	" "
Methyl parahydroxybenzoate	**0.15**	" "
Water	**54.85**	" "

Melt the first three items. Mix the glycerine, triethanolamine, and water, and heat. Add melted fats. Mix rapidly until cool. Finally add perfume and preservative dissolved in alcohol.

PERMANENT WAVE SOLUTION: We have manufactured a permanent wave solution but it does not give complete satisfaction. Can you send us a formula for a non-ammonia type of permanent wave solution that will give a tight curl? Please give the formula in ounces. Daytona Beach.

I think something along the following lines will be satisfactory to you:

Triethanolamine, commercial	**11.5 oz.**
Borax	**4.0** "
Sodium carbonate	**2.0** "
Sodium sulphite	**1.5** "
Water	**81.0** "

LAXATIVE EMULSION: Kindly give us an appropriate formula for an emulsion containing agar, liquid paraffin and phenolphthalein. Johannesburg.

I think the official liquid petrolatum emulsion with phenolphthalein of the American "National Formulary" will meet your requirements for an emulsion containing agar, liquid paraffin and phenolphthalein.

Heavy liquid petrolatum	**500 cc.**
Agar	**10 Gm.**
Acacia, in fine powder	**40 Gm.**
Phenolphthalein	**4 Gm.**
Alcohol	**60 cc.**
Vanillin	**50 mg.**
Saccharin	**50 mg.**
Distilled water, a sufficient quantity to make	**1000 cc.**

SUN TAN LOTIONS: Can you give me information on one or two sun tan lotions? Because we cannot always get some of the newer materials, will you please base your formulas on materials that are available in my country. Buenos Aires.

A simple sun tan lotion which is based on materials which are probably available in your country, is as follows:

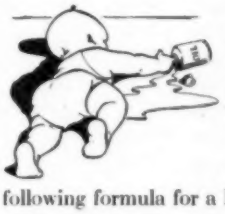
Menthyl salicylate	**11.5**	**per cent**
Alcohol	**10.0**	" "
Glycerine	**5.0**	" "
Water	**73.25**	" "
Perfume	**0.25**	" "

Dissolve the menthyl salicylate in alcohol, add perfume, glycerine and water and filter.

Another somewhat thicker lotion can be prepared from:

Quinine bisulfate	**3.50**	**per cent**
Glycerine	**5.00**	" "
Gum tragacanth powder	**1.50**	" "
Alcohol	**16.50**	" "
Citric acid	**0.75**	" "
Water	**72.25**	" "
Perfume	**0.50**	" "

Mix the gum tragacanth powder with one half of the alcohol and add it to one half of the water. Dissolve the quinine bisulfate in the remainder of the alcohol and add the perfume. Dissolve the citric acid in the remainder of the water. Add the glycerine to the citric acid solution; then all the quinine solution and finally the mucilage. Mix well.



BABY OIL AND BABY CREAM: Please send me a formula for a baby oil and also a formula for a baby cream. I want to make a really excellent product. Rochester.

I would suggest that your first requirement can be met with the following formula for a baby oil:

White mineral oil (65-75)	**45.0**	**per cent**
Refined peanut oil	**54.7**	" "
Oxyquinolin benzoate	**0.2**	" "
Maleic anhydride	**0.1**	" "

The maleic anhydride and the oxyquinolin benzoate are dissolved in the peanut oil and the mineral oil is added. Preparation is then filtered.

The baby cream can be made by mixing all the following ingredients together with good stirring:

Mineral oil	**60**	**lbs.**
Cetyl alcohol	**3**	"
Petrolatum (White)	**24**	"
Paraffin	**8**	"
Lanolin	**5**	"
Perfume	**¼**	"

Perfumer's Shelf

New Theory of Odor

Pointing out that there are more than twenty theories of odor, R. W. Moncrieff (*Perfumery & Essent. Oil Rec.* 40:279, 1949) presents a new theory which he believes will reconcile many of the previous concepts. The only postulates of his theory are that for a substance to be odorous it must satisfy these two conditions: (1) It must be volatile; (2) It must possess a molecular configuration complementary to that of certain sites on the olfactory receptor system.

According to this theory, the mechanism of olfaction takes place in the following stages: (1) The odorant material is volatile and loses molecules constantly to the surrounding air. (2) Air containing odorant molecules is inspired by the subject, and is directed by means of a sniff into the olfactory cleft. Some of the air even without the mechanism of the sniff will find its way because of eddy-currents into the olfactory cleft, but much more if a sniff is taken, with a correspondingly higher degree of stimulation. (3) The odorant molecules lodge on sites of suitable dimensions which the olfactory receptors offer to them. (4) Lodgment of the molecules is accompanied by an energy change, probably caused by reduction of surface tension. (5) The energy change in the receptors causes discrete electrical impulses to flow up the olfactory nerve to the brain. (6) Brain processes, about which very little or nothing is known, take place and are accompanied by the perception of smell.

If the further assumption is made that there are a small number of fundamental odors, each with specific receptors, the theory appears to account satisfactorily for the observed olfactory phenomena. This assumption is not unreasonable, because it is known that there are two modalities of vision—one of which is subdivided into three primary color sensations—and four of taste; and also because there is a good deal of evidence already available from fatigue experiments that there are only a few fundamental odors.

Given these premises it is possible to account satisfactorily for (1) some substances being odorous and others not; (2) the large number of different qualities of odor (concentration and volatility mainly determine intensity); (3) well-known phenomena such as a change of odor on dilution, fatigue and masking; (4) differences in odor between isomers; (5) uniformity of olfaction in man, and differences in sensitivity between man and animals; (6) many of of the odorous changes, some great, some slight, due to change of molecular configuration; (7) the enhancement of odor that unsaturation usually produces, while not precluding the appearance of odor among saturated compounds.

In concluding, Moncrieff remarks that, by trying to visualize in the simplest possible way, the changes that take place leading to the stimulation of the receptors, most of the antagonisms that previously seemed to exist between many widely supported theories disappear. Most of the attractive features that were characteristic of these earlier theories can be retained, and the new theory does constitute a unification and simplification of the conclusions arrived at by many workers.

Improved Colorimetric Test for Capsaicin

The most important constituent of red pepper is the pungent principle known as capsaicin. Because the pungency of different varieties of peppers varies enormously, there has long been a demand for an accurate method for the determination of capsaicin content. The organoleptic method formerly official in the United States Pharmacopoeia and later in the National Formulary has now been discarded entirely. Tice, in 1933, brought out a colorimetric method reaction in which capsaicin gives a blue color with vanadium oxytrichloride. A study of this method showed that the results were unreliable. However, some of Tice's recommendations relative to the isolation of capsaicin, modified to meet the requirements of an analytical procedure, have been incorporated in the method described by H. North (*Analyt. Chem.* 21:935, 1949). He points out that a colorimetric method of analysis of capsaicin using the pure drug as a standard would be unsatisfactory, as the preparation of pure capsaicin is a difficult, tedious, and very unpleasant task. This isolation of pure capsaicin has been circumvented by the discovery that vanillin, which like capsaicin contains a phenolic hydroxy group in the same relative position, serves just as well as capsaicin for the standard solution. The molecular weight of vanillin is 152, while that of capsaicin is 305. For practical purposes the latter may be considered double the former, so that 5 ml. of a solution containing 0.5 mg. of vanillin are equivalent to 1.0 mg. of capsaicin.

On this basis a method for the colorimetric determination of capsaicin in oleoresin of capsicum has been developed in which the readily available vanillin is employed for the standard solution in place of capsaicin. Details are given in North's report.

Patented Essential Oil Compositions

In British Patent 573,789, A. H. Stevens describes essential oil compositions comprising a mixture of an essential oil and at least an equal quantity of a water-soluble hydroxy polyoxyethylene ether of a partial higher fatty acid ester of a low molecular weight polyhydroxylic compound. In sufficient dilution, the compositions are suitable as perfumes, flavorings and theatre sprays. Aqueous solutions of the compositions may be made, the ether-ester acting as a dispersing agent.

The polyhydroxylic compounds specified, from which the ether-esters are derived, comprise polyhydric alcohols such as ethylene glycol, glycerol, pentaerythritol, mannitol, sorbitol; their internal ethers such as mannitan, sorbitan, sorbide, mannide; their external ethers such as polyglycerols, dipentaerythritol; and sugars such as glucose, sucrose and cyclitols such as inositol. Of a large number of actual compounds specified, mannitan monolaurate hydroxy polyoxyethylene ether with twenty oxyethylene groups per mol. is typical.

The essential oils specified comprise the oils of orange, spearmint, lemon, cassia, clove, cedar leaf, peppermint, tea

tree, chenopodium, pine needle, and benzaldehyde, eucalyptol, terpineol, methyl salicylate, and benzyl acetate.

Solid Perfume

According to a note in *Chemist and Druggist* (152:396, 1949) a "solid" perfume may be prepared from:

White beeswax	200
Japan wax (or substitute)	200
Ethyl phthalate	400
Concentrated flower oil, or other concentrated perfume	200

The hardness may be varied by modifying the proportions of wax and fixative.

Synthetic Floral Perfumes

A rather comprehensive discussion of the blending and creation of synthetic floral perfumes, with illustrative formulas, is given by T. Ruemele in the *Perfumery and Essential Oil Record* (40:288, 1949). Thus, in the first part of the discussion, he points out that the various ionone types are the most important and indispensable synthetic components for the manufacture of violet perfumes. *alpha*-Ionone is used to provide the slightly bloom-like character, while *beta*-ionone emphasises more the woody violet type. Methyl ionone is also of value for the perfumer. The uses of the ionones are considerably increased in this connection when mixed with other agents. Cassie floral oil blends particularly well with the ionones and matches closely the violet aroma, better even than all the other floral oils do. Costus oil has a violet-like odor and imparts a unique fragrance to violet attars (suitable proportion is 1 per cent costus oil). Of special interest are irone, the odoriferous principle of orris root ionone and parmone. The odor of the ionones is rounded off by using violet leaves absolute (containing 2:6 nonadienal) when fresh note will be obtained. Small amounts of musk ketone, guaiacum wood oil, sandalwood and heliotropin represent useful fixatives. The sweet and tender odor of hydroxy-citronellal is valuable for violet compositions. Neryl propionate may be used to obtain special violet effects. The odor of the latter, however, reminds one of lily of the valley, and hitherto this compound has only been used in lily of the valley and jasmin compositions. Another valuable substance is the enol form of phenylacetaldehyde monoacetate, which imparts fullness and shade.

A typical violet composition is given as follows:

Ionone, 100%	30
Methyl ionone	10
Orris, liq.	10
Sandalwood oil	4
Methyl heptincarbonate	1
Violet leaves abs. or methyl heptincarbonate	2
Benzyl acetate	5
Musk ambrette	2
Citronellol	9
Ylang-ylang oil	3
Bergamot oil	5
Vanillin	2
Benzyl alcohol	10
Phenylethyl alcohol	7

Ruemele notes that hydroxycitronellal is the basic substance for a good narcissus perfume. Similarly terpineol, linalol and ylang-ylang might advantageously be used. The composition "blue narcissus" calls for a base which matches the jonquille base with a high content of hydroxycitronellal. The orange oils, compounded with higher fatty aldehydes, methyl nonyl acetaldehyde, etc., impart an interesting finish to the black narcissus type. The latter will be also obtained with hydroxycitronellal combined with citronellol, *beta*-ionone, linaloe oil, cedryl acetate when an orange note will prevail.

Suitable fixatives include benzoin Siam (50 per cent), labdanum, cuscus root resinoid, coumarin, heliotropin, musk (ketone, ambrette, xylol), olibanum resinoide, methylnaphthyl ketone, styrax, Tolu balsam, tonka resinoide, vanillin, cinnamic alcohol, etc. The development of the bouquet is obtained by *para* and *meta* cresyl compounds, *alpha*-amyl cinnamic aldehyde, amyl salicylate anisyl acetate, anisic aldehyde, bergamot oil, citronellyl butyrate, methyl eugenol, *iso*eugenol, geranium oil, *iso*butylphenyl acetate, neroli oil, phenylacetate, phenylacetaldehyde (1/50), styralyl valerianate, orris oil. The composition might be modified by the higher aldehydes and alcohols, amyl benzoate, anisyl acetate, benzaldehyde, cinnamyl valerianate, dimethyl anthranilate, dimethyl benzyl carbinol, hydrocinnamic aldehyde (or alcohol), indol, linalyl acetate, etc.

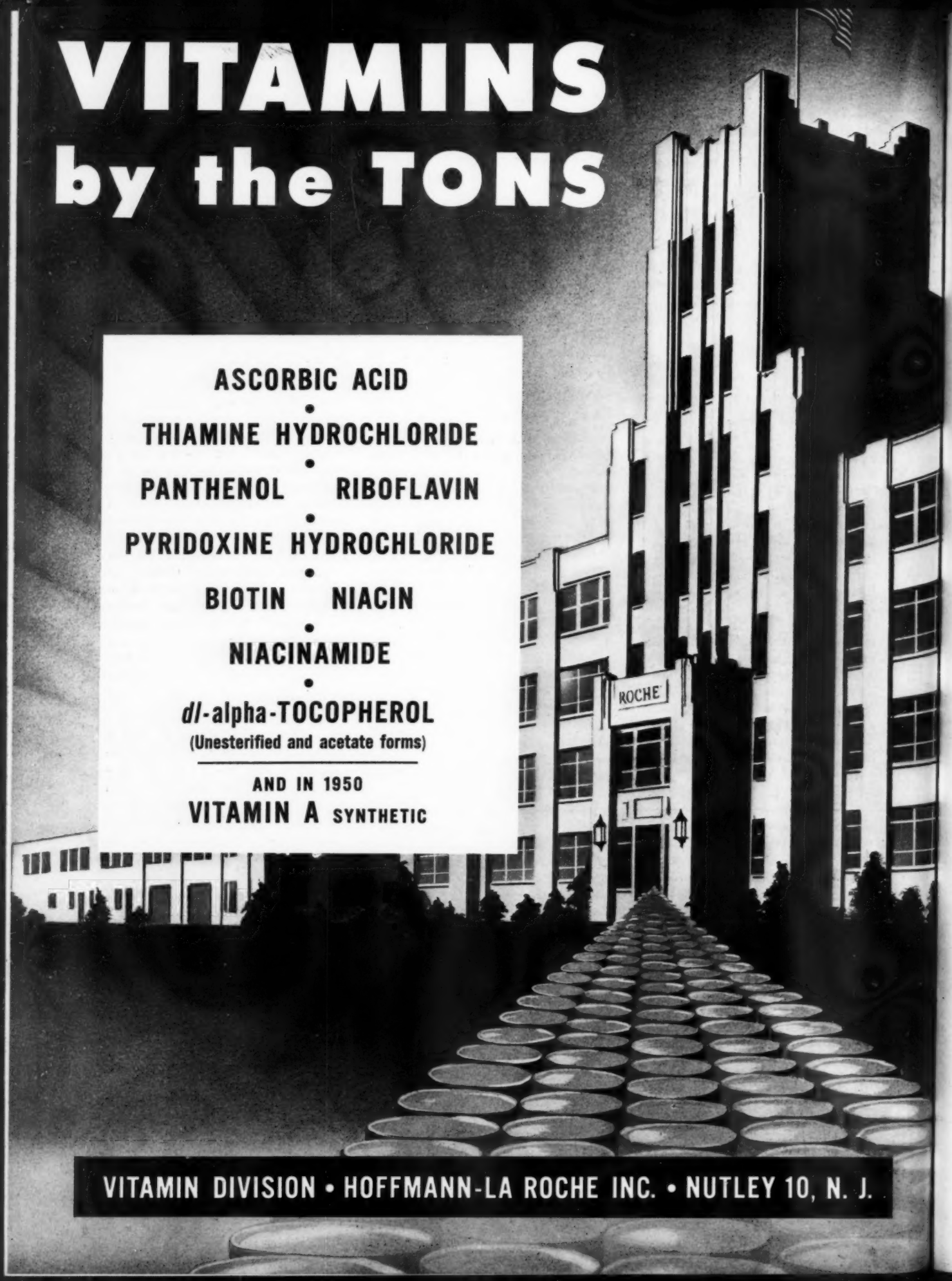
Benzylidene acetone (benzal acetone), says Ruemele, is the base of sweet-pea perfume. This substance, he notes, when compounded in extracts, acts as a skin irritant and might be better used for soapy preparations. The most appropriate base is mimose floral oil or phenylethyl alcohol, hydroxycitronellal, heliotropin, *alpha*-amyl cinnamic aldehyde. The rounding off of the bouquet might be obtained with the usual compounds as suggested in connection with the previous perfumes. The best fixatives for sweet-pea perfumes are Tolu balsam, *iso*butylphenyl acetate, amyl salicylate, amyl benzoate, musk, etc.

Phenylacetaldehyde is the basis for a synthetic hyacinth perfume, but the hyacinth soap perfume should preferably contain bromstyrol, or better still, hydratropic aldehyde, since the latter products are generally more soap-stable than phenylacetaldehyde. Bromstyrol or hydratropic aldehyde may add to the perfume a certain characteristic verdant background. A green leaf note may similarly be imparted by phenylacetaldehyde dimethyl acetal. The corresponding diamyl acetal has a pronounced bloom-like character and thus is increasingly appreciated. Interesting effects might be achieved with dipropyl acetal, and both cinnamyl acetal and benzyl acetal, in small proportions. The smoothness of the fragrance will be influenced by eugenol and its methyl ethers, benzyl acetate, benzaldehyde, and by cinnamic aldehyde, dimethyl anthranilate, cassia oil where soap perfumes are concerned. Cinnamic alcohol should be used not beyond 25 per cent, and genuine storax as well as the synthetic type are preferred for extracts and soaps. The enol form of phenylacetaldehyde monoacetate, already mentioned, is most desirable for hyacinth perfumes because it imparts fullness to the odor. Suitable fixatives include vanillin, dimethyl hydrochinone, storax, musk, civet, *iso*butylphenyl acetate, *iso*butyl salicylate, amyl salicylate, etc.

An illustrative formula for making a hyacinth perfume calls for the use of:

Cinnamic alcohol	200
Phenylethylalcohol	200
Isoeugenol	60
Eugenol	40
Phenylethyl acetate	100
Linalyl acetate	60
Linalol	40
Phenylacetaldehyde	40
Bromstryol	20
Geraniol	100
3-Methyl-2-(allyl ethyl)-cyclo pentene-2-(one)-1	40
Benzyl acetate	100

VITAMINS by the TONS



ASCORBIC ACID
•
THIAMINE HYDROCHLORIDE
•
PANTHENOL RIBOFLAVIN
•
PYRIDOXINE HYDROCHLORIDE
•
BIOTIN NIACIN
•
NIACINAMIDE
•
dl-alpha-TOCOPHEROL
(Unesterified and acetate forms)

AND IN 1950
VITAMIN A SYNTHETIC

VITAMIN DIVISION • HOFFMANN-LA ROCHE INC. • NUTLEY 10, N. J.

Abreast of the Markets

Markets Become Firmer, Reflecting Weather, World Conditions; Glycerin Demand Strong, Output Mounts

A firm tone prevailed in the market during November, with price increases in those oils and botanicals originating in Communist - dominated territories (anise oil and ergot). Other commodities are still reflecting changes caused by the recent currency devaluation, while domestic botanicals are recovering from rainy seasons in the southern states. Waxes continue to be quoted at advancing prices in the absence of competition, although some sources look for a softening tone in the months ahead. Rising prices of lemongrass oil and corresponding meager shipments from India are inexplicable at this time.

Spot supplies are being kept low until the completion of inventory at the turn of the year; menthol supplies are being held in reserve, with the anticipation of cold weather ahead and a rapidly increased demand. Glycerin has remained stable with no changes expected through the first half of 1950. Demand for the product has increased proportionately with the expansion of consuming industries like tobacco and pharmaceuticals. At the same time, the supply of glycerin has remained on the short side, in spite of imports from Russia, Holland. Denmark, and Argentina, expected to reach 4,000 tons by the end of the year. Current production of crude glycerin in Argentina is 300 tons per month, the surplus of which, up to the present time, has been exported to the United States periodically. Not only has this South American country depleted its surplus stocks accumulated during the past three years, but it has also now reduced present stocks to such an extent that no glycerin will be available for export until the first quarter of next year.

The domestic supply of glycerin has been seriously hampered by production and use of synthetic detergents (approximately 600,000,000 to 1,000,000,000 pounds) during 1949. This year's soap production, of which glycerin is a by-product, will reach an estimated 2,600,000,000 pounds. Lawrence H. Flett, president of the American Institute of Chemists, predicted in a talk before the Detroit section of the American Chemical Society last month, that the annual output of these detergents will reach three billion pounds within ten years. He listed some of their industrial uses as those of protecting cement from the weather, cleaning automobile surfaces to insure a more even finish and the processing of foods.

With these straws in the wind, perhaps suggesting further curtailment of natural glycerin production, consumers are welcoming the supplies of synthetic material.

Menthol Continues Down

Brazilian Menthol declined 75c last month on spot, prolonging the trend which has persisted since September. Prices were quoted at $10.75, duty paid while Chinese menthol afloat was bringing $11.00. Spot supplies are dwindling, since a further price reduction is expected next year. Inventories are simultaneously kept large enough to handle any increased demands which may be forthcoming in the event of colder weather. The general belief is that prices will continue to decline especially if there are large shipments from Brazil, beginning in January or February, and if there are correspondingly favorable supplies from China.

Vanilla Bean Demand Increases

Both the Bourbon and Mexican vanilla beans advanced during the month, present prices being from $3.75 to $4.25 for the former and $4.25 to $4.50 for Mexican cut beans and $5.50 to $6.00 for Mexican whole beans. The increased prices had their origin when the vanilla bean market fell off some time ago and production in all countries took a proportionate downward turn. The inevitable poor crop is only now in evidence, a condition which has especially boosted Mexican quotations. The Bourbon market is firm as a result of a very heavy demand in Europe, which is returning to the world market. This demand, in fact, has been increased just recently and has become strongest during the past three months.

In spite of these current advances, vanilla today, according to sources in the trade, is one of the few products which is priced as low as it was twelve years ago in January of 1938. By the end of the year, however, Bourbon vanilla beans advanced from $3.00 to $5.00.

• Prices quoted in this section were current on the first of this month.

Anise Oil Advances

The spot market for anise oil continued to advance during the current trading period. The price range was widened from a minimum of 95c to an outside price of $1.50. The situation in China continued complex. Connection between interior points and the shipment port of Hong Kong were all but impossible and nothing suggested an early resolution of the present blocked state of commerce in favor of an easier and larger flow of oil into the export market. Local stocks have shurnken steadily for some time past and good demand kept them contracting during the past week. Talk of a $2 minimum price continued.

Cassia Oil Up

The spot cassia oil market was strong with the new and higher price schedules now ranging from $1.90 to $3 per pound. Unsold stocks in the Hong Kong market were comparatively light and sellers continued reserve at that point in keeping with the fact that communications between the producing area and the export market in the British Crown Colony were all but totally blocked. Should Britain, however, establish diplomatic relations with the Communists now in control of the hinterland, sufficient oil may flow into Hong Kong to ease the supply situation. It was not felt, however, that such an event would ease prices. Hence, the spot attitude of reserve.

Senega Firm

Though lacking further advance in price, senega root was the object of much strength on spot and in the primary market. Present stocks must supply domestic and export needs for several months. Reversal of the recent trend can hardly come earlier than next Spring. Decline usually develops in the

(*Continued on page 711*)

Quality SHELLAC

BONE DRY BLEACHED

#65 REFINED EXTRA WHITE

#67 SEMI-REFINED

Particularly recommended in aqueous solution — because

- LOWER ACID NO.
- REQUIRING LESS ALKALI
- GIVING HIGHER LUSTRE
- GREATER DURABILITY
- GREATER FLEXIBILITY
- MORE WATER RESISTANCE

ORANGE SHELLACS — ALL GRADES

Agents in Principal Cities

Danbury, Conn.—Denis E. Durkin
Boston, Mass.—Hodges-Truesdale Co.
Philadelphia, Pa.—A. C. Hurlbrink
Chicago, Ill.—Harry Holland & Son, Inc.
Cleveland, Ohio—J. H. Hinz Company
Burbank, Calif.—H. C. Ross
San Francisco, Calif.—E. M. Walls Co.
Havana, Cuba—J. A. Castro
San Juan, Puerto Rico—Emmet Nicolai
Canada—H. J. McAdie Co., Ltd., Montreal and Toronto

Samples and Formulations will be furnished on request.

THE MANTROSE CORPORATION

Importers — Bleachers — Manufacturers

136-146 FORTY-FIRST STREET
BROOKLYN 32, N. Y.

ALKALOIDS

GLUCOSIDES---DRUG EXTRACTIVES

The Recognized Domestic Source of Supply Since 1917

ACONITINE
AGARICIN
ARECOLINE
ASPIDOSPERMINE
ATROPINE
BERBERINE
CHRYSAROBIN
COLCHICINE
DIGITALIN
EPHEDRINE
ESERINE
HOMATROPINE
HYDRASTINE
HYOSCINE
HYOSCYAMINE
LOBELINE
OUABAIN
PICROTOXIN
PILOCARPINE
SANGUINARINE
SPARTEINE
STROPHANTHIN
YOHIMBINE

INLAND ALKALOID CO.

MANUFACTURING CHEMISTS

TIPTON INDIANA U.S.A.

PHARMACOPOEIA

of the

United States

Thirteenth Revision

$8.00 postpaid

Book Department
DRUG AND COSMETIC INDUSTRY
101 WEST 31st ST. NEW YORK 1, N. Y.

Waxes Continue To Rise In Absence of Competition; Codliver Oil Softens; Lemongrass Oil Is Puzzling

Continually rising prices seem to be the trend of the waxes which have been increasing since the war. One of the most startling comparisons is that of Japan wax which is now quoted in the range of 85c to 90c, although in the year 1937 it sold for 6c a pound. Candelilla wax has advanced 4c in the past month to the range of 47c to 49c.

Several reasons have been offered in explanation of this rising market, among them, the lack of price competition. In Brazil, for example, the government subsidy and floor price has been removed, resulting in a decided upward quotation in the native waxes of candelilla, carnauba, and ouricury. While illicit trade is said to have been present in Mexican waxes in the past, this has now been squashed so that prices are advancing. Backing up this fact is a report which appeared in Foreign Commerce Weekly of November 28, stating that candelilla wax requires no export permit. The export is effected, however, through the Banco Nacional de Comercia Exterior, S.A., a semi-governmental agency. The quotas which the Bank assigns to the various producers' unions associated with it are designed to restrict production and support export prices, inasmuch as there is no domestic consumption. "The unions receive a subsidy," continues the publication, "which is intended to discourage the exportation of candelilla wax by persons or groups other than those legally authorized." Japan wax continues to rise, apparently because buyers will take no substitute and tolerate the upward trend.

Opposing trends of thought have been expressed on the subject of synthetic waxes, with one quarter believing that lower-priced man-made waxes may eventually cause the natural waxes to fall in price. The synthetics, it is said, are in no way replacing the natural waxes, but are supplementing them. The other school of thought declares that while synthetic waxes may be used instead of the natural products, in the manufacture of polishes and the like, the synthetic end-materials always prove to be inferior. For this reason, buyers prefer the higher priced natural waxes. The synthetic variety, they believe, is not in sufficient demand to restore lower prices in the natural products.

The one perplexing aspect of the wax market occurs in the Russian Montan wax which has currently fallen 2½c from the range of 25½ to 32c down to 23c to 25c. No adequate explanations have been offered as to why Russia is selling this commodity at a reduced price when at the same time the botanicals and essential oils under her control are continually increasing in price. If the action should be to attract dollars to the area, one wonders at the inconsistency of the over-all picture.

Codliver Oil Soft

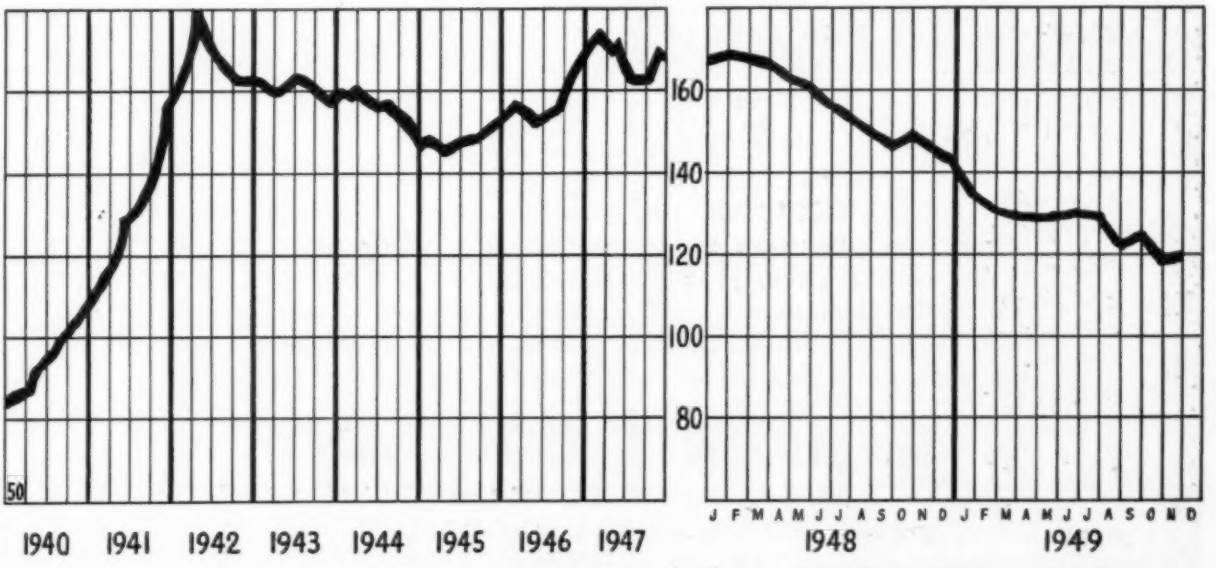
Price quotations on medicinal codliver oil were in the range of $1.50 to $1.60 per gallon but was mostly quoted between $1.50 and $1.55. Supplies were abundant against which there was a limited demand. The declining price structure since currency devaluation has been marked and the price decline has been due not only to currency devaluation but to the accumulation of stocks in primary markets and lower pricing in an effort to move material. Sudden primary market declines have led to significant losses to American dealers who were holding material purchased at higher prices, causing them to frequently unload supplies at less than cost.

Whether or not the price bottom had as yet been reached was a matter of conjecture. Large inventories at primary sources were known to exist, in addition to which the new crop season will begin in January. There well could be some further declines in an effort to move old crop stores, but the magnitude of these declines were felt likely to be considerably less than those recently made.

Lemongrass Market Up

Recent floods in Haiti and Guatamala may have been a factor in the 55-cent increase in lemongrass oil last month, but no one seems to want to venture a statement on this or on the

50 Raw Materials—Weighted Price Index. 1926 = 100.



The price index of fifty commodities for November advanced from 117.9 to 119.0.

fine perfume bases

Albert Albek, Inc.

3573 HAYDEN AVENUE, CULVER CITY, CALIFORNIA

NUNCA VANA ALBEK

WANT

AEROSOL BOMBS

FILLED?

G. BARR & COMPANY, dependable name in private label manufacture, has now added the newest and finest equipment to fill your **AEROSOL BOMBS**. Capacity of more than one million bombs a month insures prompt delivery. Experienced laboratory guarantees control and is always at your service. Requests for information will receive immediate attention.

G. BARR & COMPANY

MANUFACTURING CHEMISTS

1132 WEST 37TH STREET, CHICAGO 9, ILLINOIS

COMPLETE MANUFACTURING AND PACKAGING SERVICE OF ANY FORMULA

NOVEMBER PRICE CHANGES

UP

Agar Agar, No. 1 10c
Angostura Bark 7c
Anise Seed Star 1½c
Anisic Aldehyde 30c
Anise Oil USP 30c
Arnica Flowers 15c
Arrowroot 4c
Balsam Tolu 30c
Beeswax white 1c
Birch oil, Southern 90c
Cananga Oil, Native 30c
Cananga Oil, Rectified 75c
Cassia Oil, Redist. 45c
Cedar Leaf Oil 20c
Citronella Oil, Ceylon 15c
Ergot 25c
Eucalyptus Leaves 1c
Hellebore Root, Black 5c
Horehound Herb 2c
Ipecac Root 15c
Lavender Spike Oil 20c
Lemongrass Oil 55c
Malva Flowers, Blue 10c
Orris Root, Flor. 3c
Orris Root, Verona 1c
Peppermint Oil, Natural 20c
Peppermint Oil, Redist. 35c
Sage Oil $1.75
Senega Root 5c
Vanilla Beans, Bourbon 50c
Vanilla Beans, Mex. Cuts 75c
Vanilla Beans, Mex. Whole $1.65

DOWN

Arabic Gum, Powd. USP ½c
Arabic Gum, Sorts, Amber ½c
Aldehyde C-9 50c
Aldehyde C-10 50c
Balsam Copaiba Para 10c
Benzoin Gum, Sumatra 5c
Cade Oil 15c
Caraway Oil 75c
Carnauba Wax 1c
Cascarilla 3c
Cinnamic alcohol 5c
Golden Seal Root 15c
Menthol, Natural 75c
Montan Wax 2½c
Spermacetti 2c
Wormseed, American 6c

effect of the vitamin-A synthesis on the market. Essential oil houses exhibit a wait-and-see attitude, declaring they are fully engaged in handling lemongrass orders for pharmaceutical uses at present.

Senega Firm

(*Continued from page 707*)

second quarter of the year—when it develops at all. The decline in 1949 started in Janaury and continued into August when it reached $1.20 per pound, the bottom price for this year. Since then the market has advanced to its present level of $1.60 to $1.65.

Rhubarb Up

Spot prices on whole rhubarb root were higher at $1.05 to $1.10 per pound and powder seemed not to be available under $1.15 to $1.20. This upward surge in local values hooked in tightly with the inability of importers to get normal quantities offered or shipped from China. Spot goods developed higher levels as a reflection of the need to conserve the current stocks.

Sesame Output Off 28%

Nicaraguan sesame production during the 1949-50 crop year is forecast at about 5,000 short tons, a decrease of 28 per cent from the record 16,700 ton harvest of 1948-49 and the smallest crop since 1945-46, according to the Amerian Embassy, Managua. The sharp decline from 69,000 acres planted a year ago to only 17,300 this year is attributed almost entirely to the break in world prices of vegetable oils in the early months of 1949 and to an active campaign of the National Bank of Nicaragua, which customarily finances the greatest part of the plantings, in favor of increased plantings of other crops, principally cotton.

Agar Market Unsettled

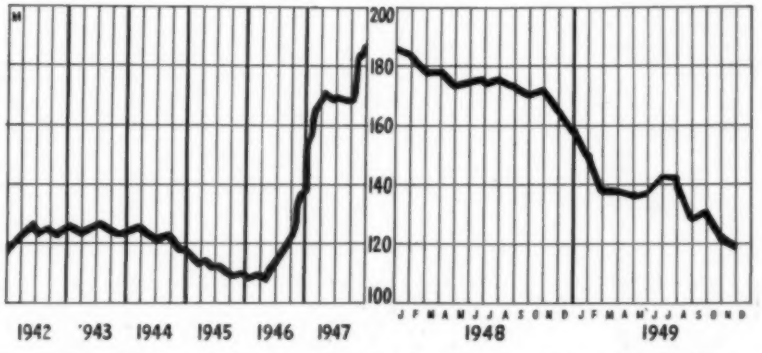
Although new shipments of agar are expected to arrive in New York from Japan in the latter part of December, agar nevertheless sold for $2.25 in November, 15c higher than the preceding month. The new material, it is thought, will be priced in the New York market at approximately $1.70, following the removal of Japanese control of floor prices. Stocks in the American market are low as buyers await the arrival of the lower-priced material.

The major production centers of agar agar in Japan are in the central area, the outstanding prefectures being Nagano, Gifu, Yamanashi, and Shizuoka, and in the western prefectures of Osaka, Hyogo, and Kyoto. Total output of agar in Japan in 1948 was 1,500,000 pounds. Total Japanese exports of agar in 1948 were 1,021,891 pounds, of which the United States imported 350,140 pounds.

Ipecac Stocks Small

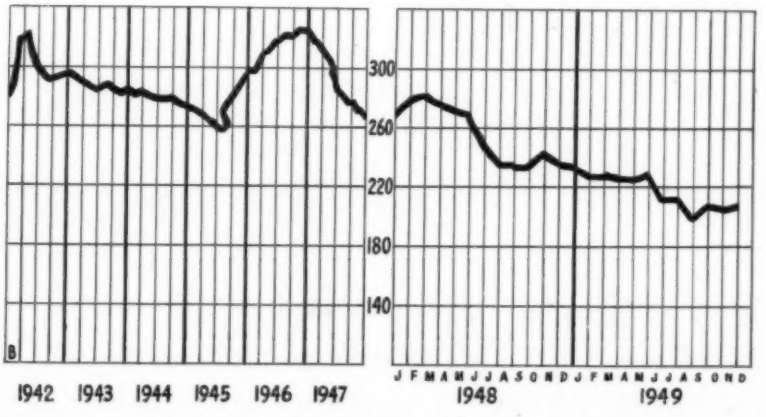
Depending on grade, ipecac root was selling in November at prices ranging from $4.25 to $5.00, an increase of 15c over the previous month. Stocks in the primary market are low, and in addition

15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.



The medicinal chemicals index declined fractionally from 120.1 to 119.5. Menthol dropped 75c a pound.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index advanced slightly from 205.2 to 208.7. Agar, ergot, ipecac root, and orris root were higher.

PERFUME BASES of Merit . . .

CONSTANT research, skillful blending and development of subtle aromatics by the Perfume Chemists of **N.B.W.** assures the quality of its Essential Oils, Aromatics and Floral Creations.

To be sure of constant high quality and lasting consumer acceptance of your products . . . Rely on **NEUMANN-BUSLEE & WOLFE, Inc.** where **RESULTS** have merited your repeat business since 1920.

NEUMANN-BUSLEE & WOLFE INC.
228 W. Huron St. Chicago 10, Ill.

R. GESELL INCORPORATED

Manufacturing Chemists

★

Specializing In Private Formula Work

★

200 WEST HOUSTON ST.
NEW YORK 14, N. Y.

Announcing

SOAPS and DETERGENTS

by Thomssen and McCutcheon

CONTENTS

1. Raw Materials
2. Machinery and Equipment
3. Soap Making Methods
4. Soap Products
5. Perfuming and Coloring
6. Glycerine and Recovery
7. Synthetic Detergents
8. Analytical Methods

512 pages **66 illustrations**

$9.00 (U.S.A.)

$9.50 (Canada & Foreign)

BOOK DEPT.

DRUG & COSMETIC INDUSTRY
101 W. 31st St., New York 1, N. Y.

Europe has been offering higher prices for the root than American importers have been willing to pay.

Essential Oils, Grasse, France

Exports of essential oils From Grasse in July 1949 were valued at 159,000,000 francs, compared with 116,000,000 francs in the preceding month. Exports to the United States are now less important than in 1946. Shipments to this country in July 1949 had a value of $58,000, as compared with $32,000 in the preceding month and $185,000 in July 1946 at the peak of the postwar boom. The July 1938 figure was $28,000, although the quantities in that month and in July 1949 were approximately equal.

Essential-Oil Exports, Madagascar

Exports of essential oils from Madagascar and dependencies during the period from January to April, 1949, included the following (in metric quintals, and thousands of francs, respectively): lemongrass, 25; 1,383; clove, 804; 16,621; ylang-ylang, 27; 4,931; and others, 182; 3,646.

Poor Supply in Sage Oil

Sage oil advanced $1.75 last month, principally because of a lack of manpower. Women are working in the fields in Yugoslavia, while the men remain under arms during the tight political situation. Although a good sage crop is available, the women are able to gather only a portion of it.

Synthetic Camphor Reduced

Synthetic camphor, U.S.P., powdered, was reduced 8c a pound during the first week in December and is now quoted at 45c, 46c, or 47c a pound, depending on the quantity. The reduction in the price of the synthetic material is said to have been caused by the competition derived from the natural camphor of Formosa. Nationalist China, it seems, is selling the Formosan camphor to the United States at a price even less than its cost of production, in an effort to attract as many dollars as possible to the area during the Civil War. As a result, it is not known how long this reduced price will persist, nor is it known how long Formosa will be a source of supply for camphor, a factor contingent on the Communist uprising.

Citronella Oil Rises in Price

Ceylon Oil began to advance toward the end of November and the first week in December. Compared to last month's figures ($1.00 to $1.39), the current range is from $1.15 to $1.40 per pound. The spot market has more stocks on hand than last month, but, according to one source, supplies in Ceylon, as well as in Java, have decreased. The Java oil was selling for about $1.65 at the beginning of December, with the majority of dealers asking for a minimum of $1.75. The upper ranged continued to be $2.20.

Peppermint Oil Advances

Natural Peppermint oil advanced 20c during the month and the re-distilled oil went up 35c. Although the oil, particularly in the Middle West had been running low in menthol content during the early summer (about 32 per cent menthol in July), the percentage increased from month to month as the plants matured. Dealers were able to blend their supplies and come up with an oil containing a 50 per cent average as accepted by the United States Pharmacopoeia.

Peppermint oil production in Sao Paulo, Brazil, during the year 1949-50 (the first and second cut) is estimated at 322,000 kilograms. Experts believe that output should not be increased beyond 400,000 kilograms, in order to avoid the over-production experienced in 1945 when the crop amounted to more than 1,000,000 kilograms.

Production of mint oils in the past few years in Sao Paulo is shown in the accompanying table:

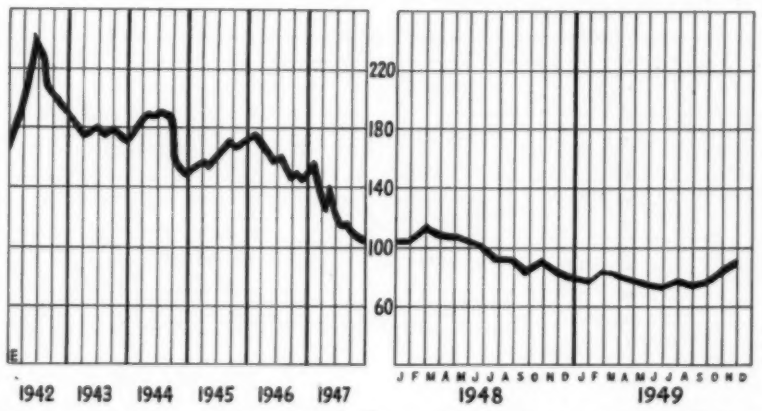
Production of Mint Oils
Sao Paulo, Brazil,
1942-1943 to 1948-1949

Year	Area planted *Alqueires*[1]	Output of mint oils *Kilograms*
1942-43	6,756	13,300
1943-44	10,030	547,961
1944-45	38,020	1,033,474
1945-46	1,355	30,000
1946-47	1,690	40,000
1947-48	5,178	228,000
1948-49	3,960	258,900

[1] 1 alqueire = 5.98 acres.
Source: Department of Agriculture, State of Sao Paulo.

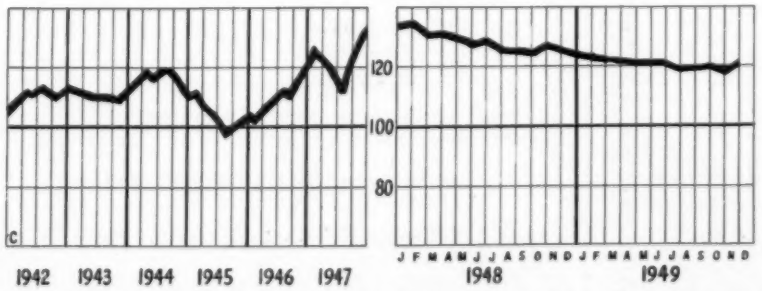
In Japan, the 1949 crop of peppermint amounts to 2,800 cho (1 cho = 2.45 acres).

15 Essential Oils—Weighted Price Index. 1926 = 100.



The essential oils index advanced from 87.9 to 91.8. Anise, cassia, citronella, and peppermint were higher.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.



The cosmetic raw materials index advanced from 118.2 to 121.4. Tolu was higher menthol declined

Industry's Books

(*Continued from page 691*)

stance, vitaminized oils (turtle, avocado) electro-osmotic water. After a study of the raw materials it is only natural that Part Four should deal with the manufacture of beauty products. This work is not a formulary, the recipes given are intended primarily to illustrate the technique of manufacture. Part Five of this work is entitled Aesthetic Dermatology and deals with vitamintherapy, organotherapy and hormone therapy, aromatherapy (physico-chemical properties of aromatics), sulphur therapy, conclusions. The work is well presented and should prove a valuable addition to the ever growing literature on cosmetology.

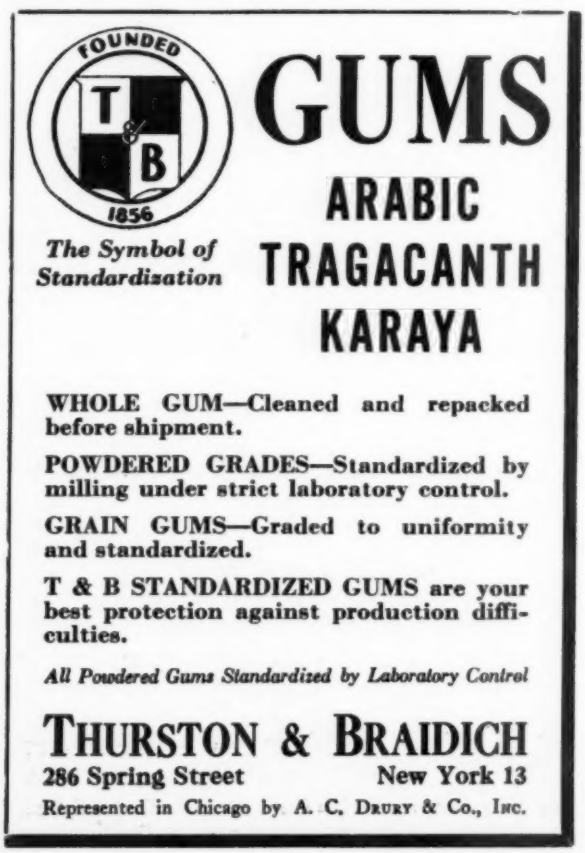
Goethe and Pharmacy, by George Urdang, Ph. G., D. Sc., Booklet, 78 pp., Illus., American Institute of the History of Pharmacy, Madison, Wisconsin, $2.50.

As a contribution to the 200th anniversary of the birth of the great poet and naturalist, Johann Wolfgang von Goethe, the American Institute of the History of Pharmacy at the University of Wisconsin has just published a booklet entitled "Goethe and Pharmacy." Dr. Urdang has marshaled convincing evidence in his well documented and interesting account to show that there not only was an essential relation between pharmacy and the poet but that this profession furnished him with men, achievements and information of importance in his life and work. Six chapters of the text bear the following titles: Goethe as a "Semi-Adept" in the Science of Chemistry; The Court Pharmacy at Weimar as a Natural Science Center; The Goethe Professors of Pharmacy and Chemistry at Jena; Pharmacy's Influence as to Botany, Physics, Mineralogy and Meteorology; Relations with and Opinions on Pharmacists; Pharmacists Serving the Work and Memory of Goethe. There are also six pages of notes and references and an index.

Pharmaceutical Emulsions and Emulsifying Agents, by Lawrence M. Spalton, B. Pharm. (London), M.P.S., 132 pp., Morgan Bros., Ltd., 28 Essex St., Strand, London, W.C.2, 5s. 6d.

Today, the pharmacist is faced with an almost bewildering assortment of emulsifying agents, all having varying properties and requiring different methods of treatment. The author has classified the considerable range of these products and presented the essential practical points about their pharmaceutical uses. The first chapter outlines the theory of the formation of emulsions. The next is devoted to the properties of the different emulsifying agents, classified into groups according to their structure and characteristics. Chapter 3 deals with the formulation and preparation of emulsions; the general methods of preparing emulsions with details of technique and the causes of emulsion separation. The practical uses of emulsifiers is dealt with at considerable length in the next chapter, which gives details of methods of handling each type of emulsifying agent, with full notes on incompatibilities and other matters. This chapter also provides many specimen formulas. Chapter 5 deals with the preservation and storage of emulsions. A classified index of over 300 emulsion agents and other agents used in pharmacy, cosmetics, toilet preparations and other industries with references to their composition, type and uses is given, together with an index of the manufacturers.

PRIVATE FORMULA
Tablets and Capsules
BY THE THOUSANDS---
OR BY THE MILLIONS
your product accurately compounded
Over 35 years' experience enables us to render you prompt, accurate, and dependable service in the manufacture of your tablets and hard shell capsules. Our central location expedites delivery to any point in the country. Furnished bulk or packaged.
Vitamin Tablets and Capsules—Tablets—Ointments—Powders
We Invite Your Inquiries
Standard Pharmacal Co.
OF CHICAGO
PRIVATE FORMULA MANUFACTURERS
M. F. Charley, President
847-853 W. JACKSON BLVD.
CHICAGO 7, ILL.


FOUNDED
T & B
1856
The Symbol of Standardization
GUMS
ARABIC
TRAGACANTH
KARAYA
WHOLE GUM—Cleaned and repacked before shipment.
POWDERED GRADES—Standardized by milling under strict laboratory control.
GRAIN GUMS—Graded to uniformity and standardized.
T & B STANDARDIZED GUMS are your best protection against production difficulties.
All Powdered Gums Standardized by Laboratory Control
THURSTON & BRAIDICH
286 Spring Street
New York 13
Represented in Chicago by A. C. Drury & Co., Inc.

Standards and Labels For Consumers' Goods, by Jessie V. Coles, University of California, 556 pp., The Ronald Press Co., New York, $5.

This volume will be of interest and value—as a record of progress and as a blueprint for future action—to all who are concerned with the better marketing of better consumers' goods, to consumers as individuals and to consumer organizations, to foresighted producers and retailers, to teachers of marketing and home economics, and to advertisers and their agents. Part I discusses the position of consumers as buyers, and the gradual development of consumer interest in their problems. In Part II, labels as they exist today are discussed and criteria for good labels set up. Part III covers some basic concepts of standards which are essential to an understanding of their use generally, and specifically in connection with consumer goods. How standards are used by producers in making, distributing, and describing consumers' goods is set forth in Part IV, while Part V deals with the manifold problems of getting standards: their development, establishment, terminology, and the procedures and agencies for securing standards and informative labels for consumers' goods. Part VI takes up the grade labeling of consumer goods in the United States and Canada, the controversies arising over compulsory grade labeling, and the general issues involved. Part VII is devoted to a discussion of the present status of standards and labels for consumers' goods.

Industrial Chemistry by Emil Raymond Reigel, Ph.D., Professor of Industrial Chemistry, University of Buffalo, Fifth Ed., 1015 pp., Illus., Reinhold Publishing Corp., New York, $7.

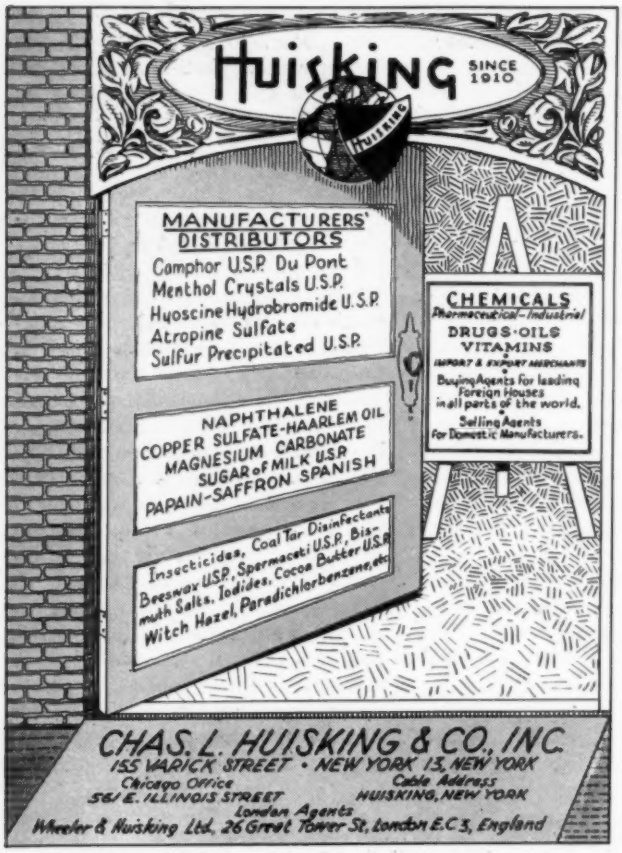
Now more than a thousand pages of text and illustrations, this work covers the plants, equipment, machinery, materials and processes in over fifty chemical and process industries. Riegel's fundamental purpose is to give you a picture of an industry, process or installation, such as you might take away after a personal visit in which you study all operations from basic chemical reactions to finished products. To this nucleus there is added a broader description of each. The new edition has been largely rewritten, expanded and brought up to date. New material not represented in the previous edition includes antibiotics, the new organic insecticides and fungicides, the utilization of wood, novel methods of the application of dyes to fiber, atomic energy, and recent developments in plastics and petroleum. This is a valuable text for chemical technologists and specialists who wish to have access to new and outstanding developments.

Organic Reactions, Vol. V, Roger Adams, Editor-in-Chief, 446 pp., John Wiley & Sons, Inc., New York, $6.

This is the fifth volume of a series which was started in 1942. The intention is to provide a compilation of all the important synthetic chemical reactions. To make these volumes authoritative as well as complete, each chapter is written by a man or men who have had special experience with the reaction they are writing about. Each chapter in the series provides a comprehensive survey of a particular reaction and includes a general discussion of method, modifications, examples of applicability, special precautions, a detailed description of the procedure, expected yields, and other pertinent data. Tables have been compiled and are included in each chapter, listing compounds which have been prepared by or subjected to the reaction under discussion in that chapter.

Reheis
MEANS PURE CHEMICALS
for
DRUGS AND COSMETICS
The Reheis Company manufactures consistently pure chemicals for the drug and cosmetic industries.
At the modern Reheis plant the most advanced equipment and methods known to skilled chemists and technicians are employed in the manufacture of fine chemicals that meet every standard by which purity is measured.
Reheis can meet your demand for pure chemicals . . . promptly and efficiently. Write now for full information.
★ Aluminum Hydroxide Gels (powders and pastes) ★
★ Chlorhydrol (a new dermatological astringent) ★
★ Magnesium Hydroxide ★ Magnesium Carbonate ★
★ Magnesium Trisilicate ★
Reheis Company, Inc.
(Formerly Schofield-Donald Co.)
BERKELEY HEIGHTS • NEW JERSEY

it's a pleasure...
TO STAY AT THE
HOTEL RALEIGH...WHEN IN
WASHINGTON, D.C.
See history in the making. The Pentagon Building, the new Jefferson Monument, the Mellon Art Gallery, and many other points of historic interest. Hotel Raleigh offers elegant comfort, excellent cuisine. 400 air-conditioned rooms, reasonable rates. In the heart of official Washington. . . . Drive into our hotel garage.
HOTEL Raleigh
MIDWAY BETWEEN THE WHITE HOUSE AND THE CAPITOL
ON FAMOUS PENNSYLVANIA AVENUE
SPECIAL COURTESIES TO HONEYMOONERS
Write for booklet or honeymoon brochure to C. C. SCHIFFELER
VICE PRESIDENT AND MANAGING DIRECTOR
Or your own travel agent



PEDER DEVOLD
PURE NORWEGIAN
COD LIVER OIL U.S.P. **1 Gal. Cans**

Handy—Attractively Lithographed

They contain only the finest, freshest, most palatable oil Norway can produce. Vitamin-tested here. A favorite with the Drug Trade here and abroad. Packed 10 to sturdy shipping case.

VITAMINE BRAND OILS (Fortified Poultry C.L.O.)
DEVOLD VITAMIN A & D FEEDING OILS
DEVOLD DRY D_3 (For Poultry Feeds)
VITAMIN D_3 In Oil
VITAMIN A & D CONCENTRATES
PURE WHEAT GERM OIL

IMPORT P.D. EXPORT
PEDER DEVOLD OIL COMPANY
DIVISION OF CHAS. L. HUISKING & CO., INC.
155 Varick St., New York 13, N. Y. Cable Address: VITAMINE, New York

SANTONIN N.F. VIII
Meeting Requirements of International Pharmacopoeias
ALKALOIDS of AMERICAN MANUFACTURE
SANTONINE COMPANY OF AMERICA
DIVISION OF CHAS. L. HUISKING & CO., INC.
155 VARICK STREET, NEW YORK 13, N. Y. Cable Address SANTONICUS, N. Y.

Hair Preparations

(*Continued from page 643*)

There are any of a number of quaternary and cationic compounds available for this purpose. However, they all vary somewhat in their activity so that no broad generalization regarding the quantity to be used could be recommended.

Hair coloring agents cover a large field in themselves and the preparations in which they are incorporated. Our discussion will, therefore, be limited to the hair tints rather than the hair dyes since the former have been in common use in the home while the latter remains a beauty shop preparation. The tints owe their ability to their somewhat cationic active character which enables them to combine with the hair and coat it. Application is best made from an acid medium so that any form in which the coloring is presented for this function must have incorporated in it a compound which would cause a solution of it to be well over on the acid side. Preparations of this type have appeared as crystalline mixtures of the dyestuffs and a polybasic acid with directions for incorporation in the requisite amount of water. The acids used in this conjunction may be tartaric, citric, malic or any of the large number available. The choice of a polybasic acid is because of its crystalline structure rather than because polybasic acids behave in a better fashion. The colors used in any one shade should be chosen with due consideration of the amount of coloring retained after shampooing. This becomes important because use of the dye at regular intervals may eventually cause it to assume an undesirable hue due to the greater cumulative effects of one of the dyestuff compounds over the others. The best mixtures are those in which the dyes can be thoroughly removed from the hair with shampooing.

Preparations in the past, but with recurring interest, include the hair pencils or hair sticks, which are much like mascaras in that they are applied to damp hair, but by stroking with the pencil rather than with a brush. They may be formulated in much the same manner as mascaras by incorporation of the colors into a mixture of triethanolamine stearate in carnauba and beeswax.

The hair grooming agents are perhaps the most numerous when the number of different types are considered. They range from alcoholic solutions of an oil to aqueous dispersions of gums, and include in between shellac solutions and water-in-oil emulsions. At this writing the lotion types seem to have aroused the greatest interest, though sales of the other types are far from slumping to a negligible level. What is more interesting, however, is the better chance of public acceptance of these preparations when some new factor is incorporated, than is the case with some of the other cosmetic preparations. The cream hair oil, for example, owes at least a portion of its success to the wartime scarcity of alcohol. The consequent substitution of the emulsion as a medium for disposition of a thin oil

film on the hair proved to be at least as popular as the older solution form. More recently there has been introduced another type preparation which utilizes a protein hydrolysate dispersed with a wetting agent as a means of keeping the hair in place, with application taking place by means of a spray type of container which seems to have met with good acceptance.

Also on the market are two phase systems with the oil floating on the surface of the water. Shaking immediately before use causes an homogeneous but unstable emulsion system to be formed which permits application of the desirable thin oil film. This type usually contains in aqueous solution, a quaternary ammonium compound which serves the dual purpose of forming the emulsion on agitation as well acting as a bacteriostatic agent after application. These are in addition to the old quince seed solution which still has its fair precentage of adherents as well as the old castor oil in alcohol solution which also commands a good share of the total volume.

In the newer preparations, particularly, there is an increasing emphasis being placed on dandruff control. Most of the claims are based on the ability of the preparation to remove loose dandruff, but there is an increasing concentration on ways and means of destroying organisms associated with dandruff. The quaternary ammonium compounds particularly are being investigated in this connection and the claims being made are rather interesting.

Dandruff control by itself is not at all fully understood, but some theories regard the "bottle bacillus" usually associated with dandruff, an aggravating agency, if not the cause, and therefore believe that its inactivation would be of help to the dandruff situation in general. It would therefore seem that any progress in the evolution of hair preparations will probably include a mechanism for better control of dandruff or associated scalp ailments.

The story of the hair preparations is fascinating because of the complete upset their rapid expansion in use has caused to the cosmetic economy picture. We can now point to several examples where firms which have been associated in the past with creams and other treatment items, but whose business has now become primarily a hair treatment business and whose best selling products are permanent waving solutions and shampoos. One of the strongest financial entities in cosmetics owes its position entirely to its successful sale of the permanent wave to the home. New innovations, if they have any merit whatsoever, seem to be the more readily acceptable if they help to beautify the hair. It would be interesting to see what the next few years will show.

Explains Wage-Hour Act

The U.S. Chamber of Commerce has published a booklet entitled, "What the 1949 Wage-Hour Act Means", which analyzes the entire wage-hour act. The act will go into effect on January 25, 1950. Copies of the booklet are available from the U.S. Chamber in Washington.

CALL WH&C for Raw Materials

LANOLIN
LECITHIN
CHLOROPHYLL
SESAME OIL, U.S.P.
Highly refined, for use in cosmetics, ampules and medicinals.
PEANUT OIL, U.S.P.
Free from contamination with other oils, for use in pharmaceuticals.
COCOANUT OIL
Edible and technical grades
CORN OIL
SOYBEAN OIL
COTTONSEED OIL

Since 1838, headquarters for oils, fatty acids, detergents and specialties.
Phone: CHelsea 3-6048

SINCE 1838

Warehouses in New York and Newark, N. J.

Welch, Holme & Clark Co., Inc.
439 WEST STREET NEW YORK 14, N.Y.

GREEFF

ANTIOXIDANTS
FOR PHARMACEUTICAL
AND
COSMETIC CREAMS
AND LOTIONS

Manufactured by
FRIES BROS., Inc.

R. W. GREEFF & CO., INC.
10 ROCKEFELLER PLAZA, NEW YORK, N. Y.
TRIBUNE TOWER, CHICAGO, ILLINOIS

CHARLES B. CHRYSTAL CO., INC.
55 PARK PLACE • NEW YORK 7
Established 50 Years
PLANT: JERSEY CITY, N. J.

TALC—
Domestic
Canadian
French
Italian

KAOLIN
BENTONITE
KALINITE
FULLERS EARTH
PRECP. CHALK
CHINA CLAY

CBC
CHARLES B. CHRYSTAL
MINERALS, CLAYS, COLORS
1867
NEW YORK

Patents on Doom

(*Continued from page 645*)

tissue. This product had long been known, but as far as the record showed had only been used for tanning purposes. On an appeal to the Court of Customs and Patent Appeals from the refusal of the Commissioner to issue a patent, the court sustained the refusal and stated in part:

> "It is our opinion that not only is the weight of authority contrary to appellant's contention, but that it is clearly contrary to the spirit, and in our opinion contrary to the letter of the patent laws that patents should be granted for old compositions of matter based upon new uses of such compositions where such uses consist merely in the employment of such compositions."

It is not intended to imply that the recent patents issued on the excellent vasoconstrictors and other autonomic agents, antimalarials, antihistaminics, vitamins, metabolic drugs, etc. appear indefensible and constitute these so-called patents on doom. But concern is expressed over such patents as, for example, the attempt to protect the use of sodium bisulfite as a preservative for epinephrine solution, or, a recently issued patent[4] which covers the use of a mixture of propylene glycol and water as a solvent for dihydroxyethers, principally tolyl-β: γdihydroxypropyl ether or chlorophenyl-β:γdihydroxypropyl ether. In a similar view, a patent issued in May 1949[5] covers in two claims a composition for intravenous treatment of genito-urinary infections and and hypertension, which composition consists of an aqueous solution of methenamine and dilute hydrochloric acid(sic).

A patent covering an original use of a composition of matter, is one recently issued for a hair preparation consisting of soap, perfume oil, and 40 per cent potassium dichromate. Although, there is no doubt regarding the originality of the concept as recited in that patent, the question of utilizability is rather in doubt. In the same vein, a solution of DDT as eye drops, to prevent eyelashes from being matted up by houseflies would be equally original.

Another example of a patent which may very well fall into the same category, which although useful, but which can hardly be said to conform to the requirements of an invention, is a suspension of carotene in an edible liquid, specifically oil. It appears by the specifications and claims of that patent that the common art of the average practitioner is expected to be productive of the same results.

A further example, is a composition of matter covering a synthetic vanilla flavor comprising essentially alcohol, water, caramel, vanillin and coumarin. We really do not know of any other way of making a synthetic vanilla flavor and the prior art is quite replete with such examples.

Although not strictly medicinal patents, the following are also illustrative and applicable:

1. Cooked, dilute huckleberry juice as a pH indicator.[6]

2. Detergent compositions consisting of a solution in water of small quantities of alkali metal hexametaphosphate, triethanolamine and a wetting agent.[7]

3. Method of preventing ice formation on plane surfaces by use of solution of alcohols, water and wetting agent.[8]

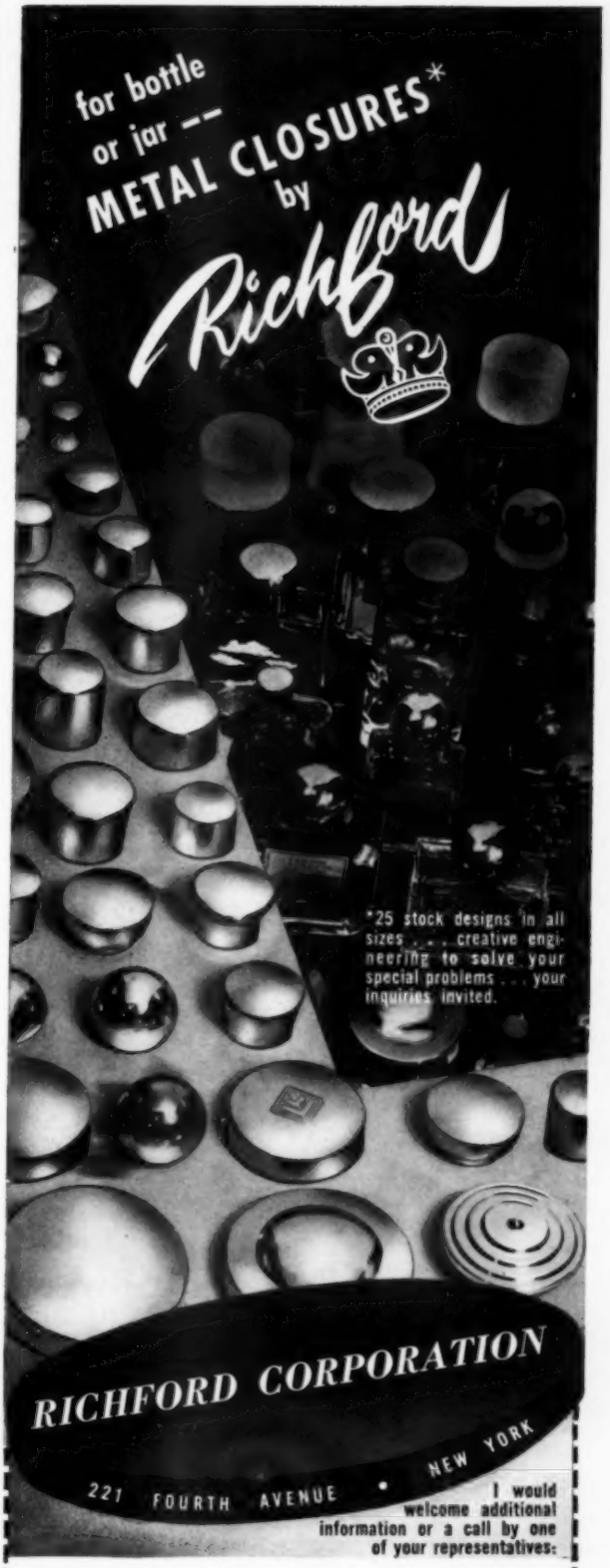
4. Mixture of cooked potatoes and starch, extrusion of mixture and baking.[9]

5. Method of preservation of fruit and vegetables by coating with wax containing o-phenylphenol as fungicide.[10]

The statement made, that with the issue of a patent the problem has just begun, applies specifically to medicinal patents. It is based on the assumption that when a patent is granted, it is intended to be utilized. By virtue of the fact that a patent is granted on a subject, it is granted for the reason, among other reasons, that it is new. If the material is new and intended for medicinal purposes, then it is ipso facto subject to the New Drug Provisions of the Federal Food, Drug & Cosmetic Act. Meeting the requirements of the patent office, is admittedly no simple task. But it is a different and in fact more difficult task to meet the requirements of the Food & Drug Administration with respect to (a) the safety of a drug, so that no predictable untoward effects result from its use, or (b) the efficacy of a drug, so that the claims made for it are in effect, those which may be expected from its use under prescribed conditions. In order to correlate research on a medicinal with its possible usefulness as a new drug, continuing reevaluation during the various stages of development is indicated, and comparative studies are among those found most useful. The principle used by one of us (Di Cyan) is comparing the import of the new drug under development.

Is the proposed new drug more toxic when compared with available comparative drugs? Is it a true or a functional toxicity? Newly patented drugs may be more toxic than the already available comparable drugs. But that would not essentially score against their utilization, as for example, they may be effective in much smaller doses. Therefore, the actual or functional toxicity may be lower than an already available comparable drug, which is not quite so toxic. Or, a newly patented drug may have a greater toxicity than the available comparable drug, but its effectiveness may be far greater. Purely for illustration, if sulfapyridine would have been the first sulfonamide, (and it certainly is much more toxic than aspirin), it does not mean that it would suffer by comparison, for in effect it would represent a great advance in a therapeutic world which did not have sulfonamides. But with the availability of sulfasuidine and sulfamerazine, consideration of sulfapyridine in connection with them would point to the advisability of abandoning research under such circumstances, on a drug such as sulfapyridine.

Summary: Medicinal patents form a unique class of letters patent, for although they have many things in


for bottle
or jar --
METAL CLOSURES*
by
Richford
*25 stock designs in all sizes . . . creative engineering to solve your special problems . . . your inquiries invited.
RICHFORD CORPORATION
221 FOURTH AVENUE • NEW YORK

I would welcome additional information or a call by one of your representatives:

NAME .....

ADDRESS .....

CITY ..... ZONE..... STATE .....

HUNTING FOR GLYCERINE?

Armour has it as close as your phone. Just call the nearest of Armour's 332 convenient stock points for all grades. Quick delivery keeps your inventories low.

ARMOUR *Glycerine Division*

Armour and Co., 1355 W. 31st St., Chicago 9, Ill.

SIPON L20

A LAURYL ALCOHOL SULFATE IN LIQUID FORM

The perfect base for shampoos and cosmetics, available for immediate delivery.

Ask for information and sample

AMERICAN ALCOLAC CORPORATION

51 East 73rd St., New York 21

Phone REgent 7-8228—7-8145

Processes and Uses Covered by U. S. Patents

common with other patents, divergence from other patents puts them into a functional class of their own. Patents covering trivia particularly in the medicinal field are usually indefensible. A tendency to "go underground" and not apply for worthwhile developments which are eligible to patent protection on the theory that patent protection is mythical may lead to an inhibition of the development of science. In the development of medicinal patents, every stage of development should be reevaluated to determine whether the result of the research has probable advantages or whether a project should be abandoned. In such cases, a comparison should be made with available comparable drugs to determine how the result of the development project compares with them. An example is given wherein the existence of available comparable drugs would modify a decision whether a given research project should be continued or discontinued: for illustration, the development of sulfapyridine, irrespective of its toxicity, was a project worthy of continuance. With the existence of less toxic and more effective sulfonamides, the development of a product such as sulfapyridine would be more wisely discontinued rather than continued.

BIBLIOGRAPHY

1. Wisconsin Alumni Res. Found. v. Vitamin Technologists Inc. et al 146 F. (2nd) 941.
2. Funk Bros. Co. v. Kalo Co. 92 L. Ed. 414.
3. In. re. Thuau. 135 F. (2nd) 344.
4. U. S. 2,468,423—Berger, Bradley & Sayer assigned to British Drug Houses.
5. U. S. 2,468,759—Babienco.
6. U. S. 2,471,896—Ranson.
7. U. S. 2,471,645—Kleeman assigned to Chlorox Chemical Co.
8. U. S. 2,469,309—Morris & Shokal to Shell Development Corp.
9. U. S. 2,469,995—Schaul.
10. U. S. 2,469,914—Bridgman to S. C. Johnson & Co.

Development of Flavors

(Continued from page 647)

used wines with their meals. The written word shows early appreciation of flavor when Job poses the question "Can that which is unsavory be eaten without salt or is there any taste in the white of an egg?"

The Romans and the Greeks were well acquainted with the special uses of flavoring materials as noted in descriptions of their feasts. In ancient times there were two forms in which flavoring was used, the employment of the natural spice or flavoring in its native state and the use of an oil extraction of a solid flavoring material. The latter was generally prepared by permitting the solid flavoring to remain in contact with some oil, usually in glass vessels exposed to the sun, and then decanting the oil solution.

The ancient Romans developed the use of flavors to an Art. The food at their banquets was lavishly prepared with many spices. They knew much of what we know today—that foods derived from animals often acquire the flavor of the products on which they feed. Milk acquires a garlic taste if the cows eat wild garlic in the pastures; eggs acquire a fishy taste if the chickens are given food with a large proportion of fish meal. Quite recently experiments were conducted with bees which were fed sugar syrup flavored with a number of

flavors such as mint, lemon, strawberry, maple, etc. The result was that the honey produced by the bees acquired these respective characteristic flavors. The Romans fed their fowl a mixture of ground dates and spices so the meat of the bird would acquire the characteristic taste.

Flavoring in Medieval Times

The customs and practices of the ancients were carried over into both medieval times and the Renaissance period, but in these periods two additional factors became of great importance. There was first the increased use of spices and flavoring for the preservation of food and, second, with the growth of the practice of alchemy methods of distillation were developed. It was not, however, until about the thirteenth Century that Arnold de Villanova, a physician of Catalonia, described in detail the distillation of an essential oil.

The role played by spices and flavoring materials in the economic and political aspects of the Medieval Period are not to be underestimated. Access to the source of such materials was directly responsible for the rise and fall of certain terrestrial and maritime powers. I am sure that the travels of Marco Polo and the shifting of trade from Venice and Genoa to Spain and other Atlantic Ocean countries occur to all.

Renaissance Period

Much of the political and economic importance of flavoring materials was carried over into the Renaissance period from medieval times. With the growth in the fields of chemistry, medicine and pharmacy, particularly with the development of the school of Paracelsus Bombastus von Hohenheim (1493-1541) founder of the school of chemotherapy, there was a tremendous expansion in the number of flavoring materials available. This was due also in no small measure to the interest developed in the related field of perfumery.

A book, *De Destillatione libri I X*, written by Giovanni Battista della Porta, a Neapolitan, (1537-1615) and published in 1563, describes in detail the apparatus for and the preparation of essential oils. Many other books were written in this period concerning essential oils and flavors and it was accepted that the art of distillation was very well known, but the *Dispensatorium Pharmacopolarum* of Valerius Cordus, published in 1546, only mentions oils of Juniper Berries and spike, and of less importance to us, oil of turpentine. The edition of 1592, however, listed 61 distilled essential oils.

Modern Period

The modern period of development of flavors may well be placed into three major sub-periods; namely, the natural flavor period, the imitation flavor period, and the "tailor-made" flavor period. I do not mean to imply that the flavors of any one period wholly displaced those of any other period. However, just as we

KOMMON/ SCENTS!

It's refreshing to read that the motion picture business is establishing an industry-wide public relations bureau. The objective, it is presumed, is to secure collective absolution for individual absurdition.

•

In the future, under the new public relations plan, any inebriated panda attacking Humphrey Bogart will be barred from El Morocco. Considering Perona's prices, the panda's banishment can really be a lucky break.

•

Biggest problem of the industry is reduction of the divorce rate. Experts believe this may be best achieved by having fewer marriages. But that poses the Oldest problem for the youngest Profession.

•

Best title we've heard from the movie people comes from the best selling novel, "The Dream Merchants." The author's conclusion: There's nothing wrong with some Hollywood actors that Penicillin won't cure.

One can expect that future exhibitor contracts will forbid the use of opium pipes in theatre balconies. Unless, of course, the smoker is accompanied by an adult.

•

And no one will be permitted to run a popcorn stand unless the audience is equipped with earmuffs. (Because of the expense involved, there will be an extra charge for the earmuffs during newsreel interviews featuring national politicians.)

•

And in an effort to bring old stories up to date, another studio will remake "The Green Goddess." In the best Hollywood tradition, it will tell the story of the Maharajah, the Maharanee and their offspring the Marijuana.

•

What a boon if the Cosmetic Industry banded together like Hollywood.

The essential oil companies could be featured as, "Myrrh-dr, Incorporated."

George Fiedler

KELTON

Cosmetic Company

230 West 17th Street
New York 11, N. Y.

763 So. Los Angeles Street
Los Angeles 14, Calif.

Private Label Manufacturers Exclusively
Covered by Product Liability Insurance

Fine Chemicals — BPC

PHARMACEUTICAL CHEMICALS

AMINOACETIC ACID
AMINOPHYLLINE
BENZOCAINE
CHINIOFON (YATREN)
CHLORBUTANOL
CINCHOPHEN
8-HYDROXYQUINOLIN
IODOXYQUINOLIN SULPHONIC ACID
NEO CINCHOPHEN
OXYQUINOLIN BENZOATE
OXYQUINOLIN SULPHATE
POTASSIUM OXYQUINOLIN SULPHATE
PHENOBARBITAL
PHENOBARBITAL CALCIUM
PHENOBARBITAL SODIUM
PENTOBARBITAL SODIUM
THEOPHYLLINE

INTERMEDIATES

BENZYL CYANIDE
BENZALDEHYDE
ETHYL CYANOACETATE
PHENYL ACETIC ACID
8-HYDROXYQUINOLIN-5-SULPHONIC ACID

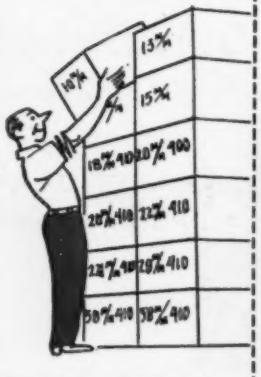
AROMATIC and FLAVORING CHEMICALS

DIACETYL

BENZOL PRODUCTS CO.
237 SOUTH STREET NEWARK 5, N. J.

MOLDED CLOSURES
by Terkelsen

STOCK



CUSTOM

Stock sizes 10 m/m to 58 m/m in phenolics or striking urea colors

We specialize in private mold designs

***Terkelsen* MACHINE COMPANY**
324 A STREET, BOSTON 10, MASS.
Jesselson Sales Co., Inc.
347 Fifth Ave., New York 15
J. Rabinowitz & Sons, Inc.
2 Hanson Place, Brooklyn 17

in modern times use many of the flavors and spices employed by the ancients, so each succeeding period took full advantage of, and in many instances improved the flavoring materials of the preceding periods. This is readily illustrated by the fact that in the tailor-made period we have made greater strides in the preparation of true-fruit flavors and natural and synthetic flavors than in any other period.

The natural flavors of the modern period of flavor development probably had their beginning with the beginnings of chemistry. This was the time in which nearly all natural things were investigated in order to determine their chemical composition and their utilization. It was inevitable that the processes used in chemistry and pharmacy would be applied to the preparation of flavors. With the development of means for the recovery of alcohol from fermented materials came the use of aqueous alcohol solutions for the extraction of natural flavoring materials with the consequent production of alcoholic extracts and essences. These extracts and essences endowed the flavor with properties that were very advantageous. The very ancient process of oil maceration was greatly improved by the use of better equipment resulting in greater yields and better products. The process of percolation was borrowed from the field of pharmacy and utilized in the manufacture of flavors.

Another process, used especially with the citrus oils, that of expression, (though its origin probably extends back into the medieval period) received much greater exploitation in the eighteenth and nineteenth centuries.

It was in the field of distillation that the greatest strides were made, for toward the end of the nineteenth century with the greater use of essential oils for the flavoring of foods and beverages rather than for drugs, there was a consequent rapid increase in the manufacture of essential oils.

While in the United States there was not the great variety of essential oils and flavors, as in Europe during this period, nevertheless, there was activity in this field from colonial days. Although not actually pertinent to this discussion, one might mention oil of turpentine which was produced in Virginia as early as 1610. Of greater interest to us is that three essential oils used a great deal for flavoring were produced in quantity in the late eighteenth and nineteenth centuries in the United States. These were sassafras, wintergreen and peppermint; the first two being indigenous to America. Both peppermint oil and wintergreen oil were made on a commercial scale as early as about 1800.

In the last half of the nineteenth century and in the early part of the twentieth century a large number of investigators analyzed all types of spices with a view of detecting adulteration. Interest in natural flavors has virtually never flagged and undoubtedly remains as great today as it ever has.

Imitation Period

In a strict sense, its growth paralleled the growth of the use of natural flavoring materials. For example,

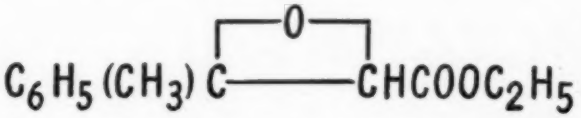
Lauraguais, a French Chemist, prepared ethyl acetate some fifteen to sixteen years before oxygen was discovered, namely in 1759. In London in 1851 at the great world fair, solutions of esters were exhibited and recommended as artificial fruit essences.

This was the period in which various chemicals were mixed with a view to simulating a given natural flavor, often to the critical tastes of today with little success. With, however, the synthesis of coumarin, a principal component of the natural flavor of tonka, in 1867 and the development of synthetic organic chemistry in general, a whole new interest was developed.

Spices, essential oils, fruits and other natural flavoring materials were processed or analyzed to recover and identify their principal flavor components. Such work gave us the isolates like vanillin, coumarin, safrole, eugenol and the like mentioned in a previous section. Attempts were then made to synthesize these major components, attempts which were successful as early as 1867 in the case of coumarin, and 1874 in the case of vanillin (Tiemann). With these materials much greater success was achieved in preparing artificial imitation flavors. There was a great development of firms especially interested in thus field in Germany and France. There was less interest shown in England and the United States with its small chemical industry lagging behind, but nevertheless in the first decade of this century some small beginnings in the manufacture of synthetic organic chemicals to be used for flavor purposes were made.

Tailor-Made Period

As great strides were made in organic chemistry, inevitably new discoveries were made in flavor chemistry. As early as 1904, Darzens a French chemist, noted that ethyl methylphenylglycidate,



which was synthesized from acetophenone and the ethyl ester of chloroacetic acid, has a distinct strawberry aroma and flavor. This, however, was not found to be the material which give real strawberries their flavor. Here then was a really new development for now the synthetic chemist had developed compounds with flavors similar to those of natural origin but of vastly greater flavoring power. This material, and a homologue, ethyl phenylglycidate which also had a marked strawberry flavor were produced commercially and marketed under the name of "Aldehyde C 16." It can readily be seen from the formula above that these compounds are not aldehydes and do not contain 16 carbon atoms (actually they contain 12 and 11 carbon atoms, respectively).

Other early workers in this field were the Russians, Shukov and Shestakov who prepared -undecalactone, so-called Aldehyde C 14, or peach aldehyde in 1908;

Better Acceptance

through

Better Aromas

Exceptional sales in drugs and drug products are most often the result of wise selection in the perfume used. Character in a fine odor enables the product to stand out from its competitors and to withstand the test of continuous use. We are equipped to develop such an odor for you.

BUSH AROMATICS, INC.

136 Liberty Street

New York 6, N.Y.

Chicago St. Louis Los Angeles

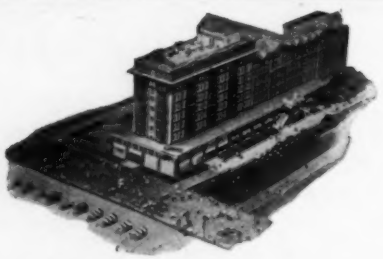
MYSORE GOVERNMENT
Sandalwood
~~ Oil ~~

Distilled from
Santalum Album

{ INSIST ON ORIGINAL CANS AND CASES }

Sole Agents for the United States
In Canada: *Sole Agents*
W. J. BUSH & CO. (*Canada*) Ltd. Montreal

W. J. BUSH & CO.
(Incorporated)
Essential Oils
New York
Chicago National City, Calif. Montreal



HOTEL STRAND

ATLANTIC CITY'S
HOTEL of DISTINCTION

Devoted to the wishes of a discriminating clientele and catering to their every want and embracing all the advantages of a delightful boardwalk hotel.

Spacious Colorful Lounges — Sun Tan Decks atop—Open and inclosed Solaria—Salt Water Baths in rooms—Garage on premises. Courteous atmosphere throughout.

Invitation to Delegates Attending Conventions
Visit the
FAMOUS FIESTA LOUNGE—FOOD for EPICURES

OPEN ALL YEAR
Under Ownership Management
Exclusive Penna. Ave. and Boardwalk

and Blaise and Koehler, French chemists who prepared -nonyl lactone, so-called cocoanut aldehyde in 1909.

It is very likely that these syntheses, while planned, were actually accidental insofar as the powerful flavoring ability was concerned, so that it may not be fair to call them tailor-made. With the knowledge that there were such powerful flavoring compounds came the planned investigation for compounds of intense aromatic character. Many of these investigations were sponsored by firms in the aromatic chemical field and were kept highly secret, as can be gathered from the aldehydes mentioned above, which became "so-called" after the secrets were out. Such secret investigations are undoubtedly being continued today.

Many such investigations, originally secret, have, however, been published. There are a large number that may occur to you in the related field of aromatics for perfumery. There has been far less published in the field of aromatic chemicals for flavor use but the classic example of the work of Rothstein on the -substituted -butyrolactones can be cited as an example of painstaking work designed to disclose the specific flavor properties of a series of compounds not naturally present and to utilize these flavor characteristics in the formulation of new flavors.

As we learn more about the realtionship of chemical structure to flavor so we will be able to go further afield in the development of synthetic flavoring materials. Not only will we be able to find products that can be used to simulate and fortify flavors of the natural group but we may develop new flavors which would be pleasing to the palate and different from any prepared before.

All of the types of flavors which we have mentioned are now in use and in all probability, despite the wide development and acceptance of synthetic flavors, there is a greater volume of natural flavoring material being used then ever before.

Because of the ever increasing world population with a consequent drain on the available food supply, it will undoubtedly be the function of the future food flavoring chemists to make flavorsome, large potential amounts of wholesome but unpalatable food.

25 Years of Givaudan-Delawanna

(*Continued from page 649*)

that amount. The reasons for this contrast are many, they are complex, and we daresay they have not been exhaustively studied. There is no doubt that the industry expanded with the growing independence of the American woman, the increasing proportion of the gentler sex among workers and executives, and the widespread use of cosmetics and perfume became possible when the aura of notoriety was lifted from painted lips and perfumed personalities.

It is true that the aromatic chemical industry expanded with this enormous increase in the sales of the products in which aromatics were incorporated, but we venture a thought that the process was reversible and mutual. By making aromatics of genuine beauty

readily available at prices which the producers of lipsticks, or creams, or face powders could afford, the quality of fragrance became an important selling point, contributing toward the greater acceptance of cosmetics.

After twenty-five years of experience in the production of aromatic chemicals, an experience which involves the manufacture and sale by Givaudan of some 250 different synthetic aromatics during a single year, the need for a scientific compendium that would contain information about all of these materials was becoming increasingly apparent. The fact is that the literature of natural products, essential oils and flower oils was more complete and up-to-date than anything available in the descriptions of synthetics. Therefore, for the benefit of the aromatics-consuming industries, Givaudan-Delawanna undertook, on its anniversary, the task of compiling and publishing a thorough book of specifications.

Going back to its very earliest analytical records, constants of every production batch in its history were examined and evaluated, toward the end of formulating specifications that would conform with high-quality manufactured products. This ambitious undertaking, which came to be known as The Givaudan Index, and which saw the light of publication a few weeks ago, is a fitting tribute climaxing twenty-five years of activity in this country, and promises to become the standard reference book for synthetic aromatic chemicals.

In this sense, the silver anniversary of Givaudan was unique, for it was not only to an extent the anniversary of an industry, but was utilized by Givaudan as the occasion for making an historic contribution toward the knowledge and progress of the entire aromatic chemical industry.

Development of New Products

(Continued from page 639)

Whether a pharmaceutical manufacturer indulges in a large or small amount of basic research, usually he must or should also carry on a considerable amount of formulation development. In fact, for the manufacturer who depends mostly or entirely on prime sources for drugs and chemicals, and who does little basic research, formulation development is, and should be, of major importance. Assuming that such a manufacturer's technical team has sound leadership, is capable and well grounded in the pharmaceutical and related sciences, and has the ability to visualize the potentialities of therapeutic compounds, such a group's greatest function will be the most effective devisement of a dosage form which is intended to become a marketed product.

Ideas

I do want to say a special word on the subject of IDEAS, and submit a new adaptation for the handling of this very important step which begins the trek toward the development of new products.

One of the most important single phases of a firm's

PHENOBARBITAL
U.S.P.

PENTOBARBITAL SODIUM
U.S.P.

GANE AND INGRAM, INC.
MANUFACTURING CHEMISTS
43 WEST 16th ST. NEW YORK 11, N. Y.
Telephone: WAtkins 4-9404

LOOKING FOR A ROSE FRAGRANCE?

For a dewy fresh fine rose perfume, we especially recommend ROSEADARE "E" for your cream preparations and lotions. A true reproduction of the living flower. Highly concentrated for economical production.

ROSEADARE "E"
Only $6.00 per lb.
Sample on request

Our staff is ready to help you achieve a quality product within your cost limitations.

PERRY BROS. INC.
220 FLUSHING AVE., BROOKLYN 5, N. Y.

efforts to progress is the constant search for ideas . . . ideas which may have practical possibilities, which are worth investigating, and which may be translatable into new or improved products or processes.

There is no one road that can be followed in the all-important search for ideas. Many different roads may lead to ideas of various sizes and worth. Some routes are rough travelling, and others lead into blind alleys.

Source of Ideas

Ideas for culling and evaluating may come from near and far. Knowledge of the many sources of ideas, and the intelligent handling and intensity of investigation of their worth, may well accelerate a company's forward pace. Consequently, it is well to be aware of the various sources, many of which are herewith listed: members of the research and development laboratories and their sub-divisions, company executives at every level, plant operators and other plant personnel, members of the medical department, members of the sales department, market research staff, interdepartmental conferences, informal discussions, customers' suggestions, inquiries, complaints, laboratories and scientific personnel of colleges and universities, consultants and collaborators, advertising firms, scientific and technical publications, government publications, trade associations and their laboratories, physicians, prescription pharmacies, hospital pharmacies, retail drug stores, wholesalers, commercial laboratories, competitors' products, scientific and trade meetings, scientific and commercial exhibits, foreign contacts, foreign products, health agencies, various government agencies, government laboratories, inventors, register of patents, patents owned by the government, dedicated patents, patent attorneys, sales that advertise manufacturing rights, private institutions, etc.

The application of ideas is utilized not only in the inception stage, but also extends into the many steps of the research and development procedure. For instance, ideas pertaining to new dosage forms may be conceived during the formulation studies, ideas may be brought to light during chemical, biochemical, and pharmacologic studies, and particularly during clinical studies. Ideas that come to light during any one of these or other stages may be important factors contributing to an acceptable new pharmaceutical product, or an improved product or process.

Handling of Ideas

It is difficult to measure accurately the potential of the various sources of ideas, but it is true that their value and worth will be related to the degree of effort employed in their exploration and evaluation. For full benefits, a paramount requisite is proper and concerted coordination of handling and screening of ideas. This is especially true in large firms, and is also true in smaller companies.

In a large firm, the screening of ideas is usually handled by the Director of Research and/or Development, or a top level group. If a single individual ad-

KESSCO PRODUCTS

Announcing

THE FORMATION OF

KESSCO CHEMICALS CORPORATION

for the distribution of

FATTY ACID ESTERS

manufactured by

KESSLER CHEMICAL CO., INC.

OFFICES

STATE ROAD & COTTMAN AVE.
PHILADELPHIA 35, PA.

333 N. MICHIGAN AVE.
CHICAGO 1, ILL.

SALES REPRESENTATIVES

M. F. ROBIE & SONS
P. O. BOX 26
SO. BRAINTREE 85, MASS.

W. W. ANGUS, INC.
220 BROADWAY
NEW YORK 7, N. Y.

MERIT-WESTERN CO.
1248 WHOLESALE STREET
LOS ANGELES 21, CALIF.

ministratively directs such functions, he will ordinarily be a top level executive. This executive usually solicits or urges the submission of ideas, by his staff and personnel, and he screens those submitted either personally or in conjunction with executives of the sales, medical, and advertising departments. What is done about the ideas that may be available from the many other sources outside of the personnel of the Research and Development departments? Is an active effort made to explore them? True, such efforts are usually made when opportunities may arise or show themselves. But Mohammed may not come to the mountain.

"Department of Ideas"

I submit that serious consideration should be given to the creation of a new department within a company's division of development, a so-called "Department of Ideas;" which department would be a separate entity, but responsible only to the top director of the research and development group. In fact, the head of such a new department, who might carry the title of "Coordinator of Ideas," or some other appropriate title, would be a full-fledged member of the director's staff. The size of the "Department of Ideas," or whatever name would be given to it, would vary with any given firm, and in fact in some smaller firms it is conceivable that it might be comprised of one individual. Needless to say, the individual vested as head of this department must be carefully chosen, must be well fortified with versatile background in the pharmaceutical industry, and must be conversant with and have good contacts with men in all walks of the technical fields related to the drug and allied industries.

Thus coordination of ideas would be specialized. The Coordinator and his staff would deal directly with the sources, would participate in the solicitation of ideas, and would make personal contact with the appropriate individuals. He would personally draw up comprehensive reports, so important for proper evaluation, after conferring with the individual from whom the ideas originates. The Coordinator would, of course, be careful to give the idea originator the full credit due.

In addition to the obvious benefits to be derived from the installation of a "Department of Ideas," such as the emphasis which would thus be placed on the handling of all sources, the Coordinator or his staff would be in a position to expedite the work of the firm's personnel, by being on the spot and taking over much of the important report writing, which would otherwise have to be done entirely by the idea originator and/or his superior. Therefore, this specialized department, in unearthing usable and worthwhile ideas, by proper treatment, evaluation and acceptance of the idea material, would prime the pump and pump back the refined material into the source from whence it came for further appropriate treatment, or aim the stream in the proper direction, thereby keeping active and healthy the life-blood of a firm's existence; namely, new ideas,

PLYMOUTH CRYSTAL "E" WHITE OIL

This oil has been the standard for many of America's very oldest cream manufacturers since their origin. It is water-white and crystal-pure . . . odorless and tasteless . . . of U. S. P. Acid Test and free of fluorescence . . . especially refined for the cosmetic industry and as pure as a mineral oil can be made. Because of its extra lightness you should specify it for the soft, light, fluffy creams demanded today.

Other mineral oils of heavier body if desired.

PLYMOUTH PETROLATUMS U. S. P.

All Petrolatums are refined and straight filtered from Pennsylvania Crude. None are acid treated and all are long fiber and of U. S. P grades.

Both soft, low melting point consistencies and pharmaceutical grades . . . as well as the regular grades for the drug and cosmetic industry. All grades are offered from Snow White to Amber.

A *Complete* LINE OF COSMETIC RAW MATERIALS

M. W. PARSONS

Imports

59 BEEKMAN STREET
NEW YORK, N. Y. U. S. A. and PLYMOUTH ORGANIC LABORATORIES, Inc.

GUMS
ARABIC—TRAGACANTH—KARAYA
(Whole, granular or powdered)

HYDROSULFITE of SODA
(Pharmaceutical grade)

GELLOID
(Pure calcium Carragheen sulfate)

SULPHONATED OILS
(Vegetable and mineral bases)

VISCO GUM E
(Specially prepared for wave-set solutions)

Ask for "The Story of Water Soluble Gums"

WOLF BRAND PRODUCTS
JACQUES WOLF & CO.
Chemicals
PASSAIC, N. J.

MOULDS
LIPSTICK • SANITARY LIPSTICK
• STYPTIC PENCILS •
SUPPOSITORIES • MASCARA

PROGRESSIVE MACHINE WORKS
137 West 22nd St., New York 11, N. Y.

ROUGE • COMPACT POWDER
also
PUNCHES FOR TABLETS
DIES

COSMETIC SAMPLING?
We are specialists at it!!
Perfumed blotters
die cut novelties
powder sampling
cellophane heat sealing
Sales Promotion Pieces
Printing for the Cosmetic Industry
The Elm Press-COSMETIC DIVISION
150 WEST 22nd ST., N. Y., CHelsea 2-1277-8

which mean new products, new processes, or more productive improved products.

This, then, is today's version and pattern of the development of new products. Tomorrow's version will differ in its shift of accent, of one phase or another; but the pattern of progressiveness, and pace-keeping with medical therapy, will be maintained or constantly improved and strengthened.

BIBLIOGRAPHY

1. Drug Research and Development. Edited by A. Smith and A. D. Herrick, Revere Publishing Co., New York, N. Y., 1948.
2. R. J. Dahl. A Concept of Product Development. Presentation, American Pharmaceutical Manufacturers Association, Boca Raton, Florida, April 29, 1947.
3. W. T. Doyle and A. R. Savina. Development and Marketing of Pharmaceutical Specialties. D. & C. Ind., January, 1946:38 and April, 1946:496.
4. U. S. Department of Commerce. Developing and Selling New Products: A Guidebook for Manufacturers U. S. Government Printing Office, Washington, D.C.: 1949.

Patent Thoughts and Trends

(*Continued from page 689*)

of colloidal gold to toilet creams of the emulsion type results in unusually curative properties when the cream is applied to the skin.

Claim 1 gives an idea of the coverage:

A toilet cream of the oil and water emulsion type, containing a small quantity of colloidal gold and an organic emulsifying agent honogeneously incorporated therein, said colloidal gold being in suspension in the aqueous phase of said emulsion.

U. S. 2,114,490, issued April 19, 1938 to Benjamin R. Harris

This patent is directed to the same problem as that of U. S. 2,109,842. The hydrophillic lipins found to be suitable in accordance with the present patent are the following:

Mono-oleic acid ester of sucrose.
Mono-lauric acid ester of dextrose
Mono-stearic acid ester of fructose
Mono-stearic acid ester of mannitol
Coconut oil mixed fatty acid mono-esters of maltose
Di-palmitic acid ester of sucrose
Mono-ricinoleic acid ester of levulose
Mono-lauric acid ester of sorbitol
Di-caproic acid ester of maltose
Mono-lauric acid ester of mannitol
Mono-oleic acid ester of mannitol
Mono-oleic acid ester of sorbitol

Claim 5 is illustrative:

A cosmetic emulsion containing oleaginous material, aqueous material and a hydrophillic lipin of a class consisting of higher fatty acid esters of sugars and sugar alcohols, said lipins containing at least one unesterified sugar or sugar alcohol hydroxy group.

U. S. 2,129,836, issued September 13, 1938 to Herman Goodman, assigned to Cosmetic Research, Inc.

The inventor named in this patent had the idea of providing water-free or substantially water-free concentrates or bases for cosmetic creams and lotions. These could be easily transformed into cold cream, vanishing cream, shaving cream and similar preparations in the home.

How the object of the patent is accomplished and an idea of the coverage may be obtained from claim 1, which follows:

A cosmetic composition consisting of the reaction product of stearic acid and triethanolamine, mixed with petrolatum in proportions to produce a solid cake which is solid at and above ordinary temperatures, and is substantially anhydrous, and which is adapted to be blended with water to produce a smooth cosmetic cream.

U. S. 2,172,118, issued September 5, 1939 to Ida G. Blish

In order to reduce the tendency of a massage cream to penetrate pores of the skin and also to produce a more "rollable" film on the skin, this patent proposes the addition of a mild organic acid such as acetic, citric or tartaric acids.

Claim 1 is illustrative:

A massage cream consisting substantially of a blend of the ingredients of a toilet cream and a rubbing alcohol and suitable for use as a lubricant in massage, comprising a high-molecular fatty acid, compounded with a wax and a sufficient quantity of a readily volatile, alcoholic menstruum to produce a cream substantially fluent at body temperatures, said composition also containing a small amount of a low-molecular fruit acid in sufficient quantity to produce a surface film during use which rolls off the surface in the form of filaments.

U. S. 2,173,203, issued September 19, 1939 to Benjamin R. Harris

This patent is similar to U. S. 2,109,842 and U. S. 2,114,490, the present patent being a division of U. S. 2,109,842.

Claim 1 gives an idea of the coverage:

A cosmetic preparation of the vanishing cream type comprising a plastic emulsion of stearic acid, water and a water soluble salt of a sulphuric acid ester of glycerine in which one of the hydroxyl groups has been esterified with a fatty acid having at least 6 carbon atoms

U. S. 2,199,796, issued May 7, 1940 to Chandler Holt, assigned to Bourjois, Inc.

The idea of this patent is to standardize a cream such as an anhydrous cream by the production therein by irradiation of active oxygen derived from the peroxidic bodies contained within the oil or oils constituting an ingredient of the cream. The preferred mixture to be irradiated consists of approximately equal parts of lanolin and maize oil with a small percentage of wax.

Claim 1 gives an idea of the method and apparatus employed to attain the desired result, as well as indicating the scope of protection. Claim 1 follows:

The method of irradiating a cream base by producing active oxygen from the peroxidic bodies contained therein, which comprises heating the base to a temperature of approximately 180° F., flowing the base onto a revolving disc effective to cause the drops thrown therefrom to impinge upon a rough surface from which they trickle in a thin uniform film of approximately 1.5 m. in thickness over an area in proximity, and so as to be exposed, to ultra-violet light radiation from a quartz mercury vapor lamp in an atmosphere of a temperature of below 200° F., while the base in such thin film passes over a tapered conical plane surface, and then removing the base from such tapered surface.

Recent Patents

2,484,833—**Glidden Co.—6-Alkoxy-i-Androstene-17-Ols.**

2,485,106—**Wyeth—Alumina Used in Streptomycin Purification.**

2,485,152—**Ciba—Tetrahydrofurfuryl Ester of Nicotine Acid.**

2,485,161—**J. Pampinella et al—Lipstick Cover with a Springing Mirror Set Therein.**

2,485,212—**Ciba—Phenthiazinyl Imidazolines.**

2,485,227 — **Squibb — Crystalline Sodium Penicillin Method.**

2,485,501—**National Drug—A Synergistic Composition comprising from 1 to 10 parts of sulfathiazole and from 10 to 1 parts of 5-methyl-tryptophane.**

2,484,029—**Ciba—Phthalazines.**

2,484,035—**Ortho — Trichlomonadicidal Therapeutic Compositions.**

2,484,128—**E. L. Stern—Thiamine-Procaine Anesthetic.**

2,484,563—**Damosel, Inc.—Hair Curler.**

2,484,606, 2,484,629—**Squibb—2-Sulfanilamido-Pyrinedines Having an Acetal or Amineo Substituent in the Pyrinidine Nucleus.**

2,484,634—**National Drug—Methyl Oxyfolic Acid.**

2,484,637—**Southern Research Institute — Powdered Ointment Base of Methyl Cellulose and Sorbitol.**

2,485,662—**Eli Lilly—Alpha—(Aminoalkyl)—Stilbenes.**

Flavor Chemicals
FOR BUTTER TYPE FLAVORS
Diacetyl • Acetyl Propionyl
Acetyl Iso-Butyryl • Acetoin
FOR PINEAPPLE IMITATIONS
Allyl Caproate • Allyl Caprylate
Allyl Heptoate
FAIRMOUNT CHEMICAL CO., INC.
136 LIBERTY STREET • NEW YORK 6, N. Y.

TL Beeswax
• PURE WHITE
• EXTRA QUALITY
• ABSOLUTELY PURE
• ABOVE U.S.P. STANDARDS
• Samples will gladly be sent on request—at no obligation.
Serving The Trade For 97 Years
THEODOR LEONHARD WAX CO., INC.
HALEDON, PATERSON NEW JERSEY
Western Distributor: A. C. Drury & Co., 219 E. North Water St., Chicago, 11, Ill.

VANILLIN
ZIMCO® LIGNIN VANILLIN C. P., U. S. P.
A Natural Source Vanillin Originated and Manufactured in the United States.
A Finer Vanillin of Exquisite Aroma.
Consult your flavor supplier
Sterwin Chemicals
SUBSIDIARY OF STERLING DRUG INC.
170 VARICK STREET, NEW YORK 13, N. Y.
445 Lake Shore Drive, Chicago 11, Ill.
FACTORY: ROTHSCHILD, WISCONSIN

ampco
YOUR PROBLEMS will find considerate and careful attention in our well equipped PRIVATE FORMULA PLANT.
Unsurpassed in the development and compounding of Private Formulas.
Complete Laboratory Facilities. For Quotations Call or Write:
AMINO PRODUCTS CORP.
1201 North La Brea
Los Angeles 38, Calif.

SEIL, PUTT & RUSBY, Inc.

Earl B. Putt, President and Director
Alfred S. Moses, Vice President
Stephen S. Voris, Ph.D., Chief Chemist

Analytical and Consulting Chemists
Formerly Experts for U. S. Dept. of Agriculture

Analyses Made — Formulas Developed
Research Investigations Conducted

Specialists in the Analysis of

Beverages — Essential Oils
Flavoring Extracts — Toilet Preparations
Foods — Spices — Drugs
Proprietary Medicines — Special Formulas
Pyrethrum, Rotenone and other Organic Insecticides

Lab's: 16 East 34th St. New York, N. Y.
Telephone MUrray Hill 3-6368

IMPROVE YOUR FORMULA

Perhaps I can make it taste better, smell better, look better and keep better. Either Medicinal or Cosmetic.
Also, labeling and advertising revised to conform with FEDERAL and STATE laws and regulations.

GEORGE W. PEGG, Ph. C.
Consulting Chemist
75 LAFAYETTE AVE., E. ORANGE, N. J.
Telephone ORANGE 5-0377

ARLINGO RESEARCH LABORATORY, INC.

Research, Formulation and Application to the Industry.
Ethical Pharmaceuticals, Drugs, Cosmetics and Perfumery.

333 W. 52nd St., New York 19, N. Y.
PLaza 7-3708

• A-R-L-Inco means: Applied Research Laboratory, Incorp.

FOOD RESEARCH LABORATORIES, INC.

Founded 1922
Philip B. Hawk, Ph.D., President
Bernard L. Oser, Ph.D., Director

Research ◆ Analyses ◆ Consultation
Biological, Nutritional, Toxicological Studies for the Food, Drug and Allied Industries
48-14 33rd Street, Long Island City 1, N. Y.

FOSTER D. SNELL, INC.
CHEMICAL & ENGINEERING CONSULTANTS

DERMATOLOGICAL & BACTERIOLOGICAL STUDIES
COSMETIC FORMULATIONS DEVELOPED
TOXICITY, STERILITY & PATCH TESTS
29 W. 15th St. N. Y. 11, N. Y. WA 4-8800

EVANS RESEARCH & DEVELOPMENT CORP.

Chemical research—processes—products
Special facilities for cosmetics

SEND FOR BOOKLET "D"

250 E. 43rd St., N. Y. 17, N. Y. MU. 3-0071

RONALD CLARKSON
Tablet Consultant

A complete Advisory Service on New Tablet Products–New Tablet Applications–Special Coating Problems–Formula Developing–Production Methods–Plant Layout. Pharmaceutical–Chemical–Industrial–Food–Confections–Cosmetics–Toiletries.
1905 GRANT AVE., PHILADELPHIA 15, PA.
ORchard 3-4306

ALBERT B. PACINI, Sc.D.

Cosmetic Consultant

Processes • Products

208 N. Maple Ave. East Orange, N. J.
Tel.: ORANGE 2-7806

Professional Service and Classified Advertising

Machinery and Equipment For Sale

UNION
Rebuilt Machinery
Established 1912

LATE TYPE EQUIPMENT REDUCED FOR QUICK SALE

Stokes and Smith G4 and Auto Duplex Auger Powder Filler and Capper.
Triangle Model SHA Automatic Net Weigher and Carton Sealer.
Day and Robinson 100 to 4000 lbs. Dry Powder Mixers and Sifters.
J. H. Day 8 gallon Pony Mixer.
Burt Automatic Wraparound Labeler.
Filler Machine Late models 1, 4 and 8 Head Stainless Steel Piston Fillers.
Pony M and MX Duplex Labelrites.
Ermold & World Semi & Fully Auto Rotary and Straightaway Labelers.
Stokes and Colton Late Style Rotary and Stokes T Tablet Machines.
Triangle U-1 Auger, G2C and A-60A Electri Pak Fillers.
Package Machinery Co. FA, FA2 and FA2Q Automatic Wrappers.
Hayssen 3-7 and Scandia SSU1 Automatic Wrappers.
Standard Knapp 429 Carton Sealers.

Many Other Items of Interest in Stock - Fully Guaranteed

Tell Us Your Requirements

Union STANDARD EQUIPMENT CO.
318-322 LAFAYETTE ST., N. Y. 12, N. Y.

FOR SALE: 6—Colton 3DT single punch Tablet Machines, ⅝" belt drive, ⅓ HP Motor; 2—Colton F, ¾" belts; 1—Colton No. 4 1⅛, 1½"; 5—Stokes Rotary RD1 and RD4, 1"; 1—Stokes Rotary DD dbl. Hopper, clutch pulley and 5 HP motor; 8—Dry Powder Mixers, 50 lb. to 2000 lb.; 3—Package Machinery Co. F9 Cellophane Wrapping Machines; 1—Standard Knapp No. 429 auto. Carton Gluer-Compression Unit; 9—World or Ermold Semi-automatic Labeling Machines; 2—World Rotary Automatic Labellers, motor driven, Late serial number; 1—Stokes 79-80 Filler, Closer and Clipper, motor driven; 60—Stainless Steel, Aluminum, Copper, Glass lined, Jacketed Kettles, some agitated; 1—Karl Kiefer Rotary 8-spout Vacuum Filler; 1—No. 2th Micro-Pulverizer; 1—No. 4th; 66—Tanks 26—Stainless Steel, 250, 350 gal.; 40—Aluminum 800, 650, and 250 gal. Send for latest copy of "Consolidated News" listing complete stock. We buy your surplus equipment. Consolidated Products Company, Inc., 14-15 Park Row, New York 7, N. Y. Phone: Barclay 7-0600.

MOJONNIER No. 90 Stainless Steel 14 spout automatic Rotary Vacuum Filler; International Stainless Steel 12 spout Automatic Straightline Vacuum Filler; Resina Single head Automatic Capper, 28 MM. Stainless Steel Tanks and Kettles. Perry Equipment Corporation, 1523 West Thompson Street, Philadelphia 21, Pa.

NEW MOTORS and Controls at a discount. All types and speeds, gear head, variable speed, explosion proof; prompt shipment from local stocks throughout United States. Write Western Roy Alan Corporation, Torrance, California.

Machinery and Equipment For Sale

ROY ALAN HIGH SPEED 4 x 8 and 6 x 12 THREE ROLLER MILLS FOR WET GRINDING AND DISPERSION. WATER COOLED, ROLLER BEARINGS THROUGHOUT. WRITE WESTERN ROY ALAN CORP., TORRANCE, CALIFORNIA.

ORIOLE SINGLE PUNCH preform Tablet Machine, ½" dia. Hopper, feed shoe. Cheap for quick sale. Arrow Products, Box 933, Buffalo, New York.

FOR SALE: Colton No. 5½T Preform Tablet Machine 3", U. S. Stainless Steel Colloid Mill 5 HP. Also other sizes. Standard Automatic "Sameo Jr." Vac. Bottle Filler. Three Roll W. C. Steel Mills, 3" x 9", 6" x 14", 12" x 30", and 16" x 40". Four Roll 12" x 36" vert. Steel W. C. Mill. Dryers Atmos. and Vac. Pebble, Jar and Ball Mills, Stokes high Vac. Pumps. Homogenizers. Knapp Can Labeler. Stokes and Smith and Day Powder Fillers. Day Powder Mixers, 50 to 2500 lbs. Sifters. Sealing, Closing and Wrapping Machines. Colton Tube and Jar Fillers and Closers. Edson 6 and 8 spout siphon bottle Fillers. Stokes and Colton Rotary and Single Punch Tablet Machines ½" to 3". Sharples Centrifuges. Tolhurst Centrifugals 26" to 48". Sperry and Shriver Filter Presses 12" to 42". Stainless Steel, glass lined, aluminum, copper, iron and Steel, jack. Kettles and Tanks. Portable, elec. Mixers, ¾ to 2 HP. Pumps. Liquid and Paste Mixers. Filters, Grinders. Crushers and Pulverizers. Stills. Soap Machinery, etc. Send for special bulletin. We buy your surplus equipment. Stein Equipment Company, 90 West Street, New York 6, N. Y.

FOR SALE: Three Colton No. 4 Worm Tube Fillers; three Colton No. 2 Closers and Crimpers; Two Colon No. 17 and No. 30 Automatic Tube Fillers. Closers and Crimpers; Ten Powder Mixers 15 to 2500 lbs. cap.; Port. Agitators; Stainless Steel Tanks and Kettles; Conveyors; Fillers; Labelers. Send for Bulletin A-24. We buy your surplus. The Machinery & Equipment Corporation, 533 West Broadway, New York 12, N. Y. GRamercy 5-6680.

Help Wanted

PHARMACEUTICAL RESEARCH: Prefer M. S. Pharmacy with knowledge in product development of tablets, liquids, ointments, etc., Under 30. Will consider B.S. with research experience. West Coast. Box D-4, DRUG AND COSMETIC INDUSTRY.

Situations Wanted

ORGANIC CHEMIST PH.D. Diversified experience. Nine years in supervisory capacity with manufacturer of essential oils, isolates and aromatic chemicals, seeks advanced position with aggressive house. Languages, publications and patents. Box D-1, DRUG AND COSMETIC INDUSTRY.

COLLEGE GRADUATE, Bachelor Science, 25, married, seeks position with a future, direct sales experience, naval laboratory experience, willing to start at the Bottom. Box D-2, DRUG AND COSMETIC INDUSTRY.

YOUNG MAN, energetic, adaptable, experienced in production, control, packaging and processing of pharmaceutical specialties and cosmetics. Thorough knowledge of raw materials. Presently employed in capacity of assistant to production manager; seeking similar situation. New York or vicinity. Box D-3, DRUG AND COSMETIC INDUSTRY.

PERFUMERY EXECUTIVE, U. S. Citizen, formerly Sales Manager, also Vice-President nationally known brands, thorough knowledge of marketing conditions of finished products in U. S. A. and Canada, nine years experience essential oils, willing to travel and/or relocate, seeks position. Best references supplied on request. Box D-5, DRUG & COSMETIC INDUSTRY.

Business Opportunities

LANOLIN CREAM GROOM for the hair, pure white, finely perfumed emulsified liquid cream, 3 oz. fancy lotion bottles, your label, 12 cents bottle. J. O. Thompson, 1566 East 18th St., Cleveland 14, Ohio.

CONSULTING LABORATORY for the Manufacture of Cosmetics, Pharmaceuticals, etc. Dr. H. Salfield, 19 Valley Road, White Plains, New York.

Write for new descriptive booklet

Cachalot®

cetyl oleyl stearyl

fatty alcohols

M. MICHEL AND COMPANY, INC.
90 BROAD STREET • NEW YORK 4, N. Y.
since 1926 basic suppliers to chemical manufacturers and distributors

• For IMPORT CAMPHOR, LINALOOL, SAFROL, EUCALYPTUS OIL, SASSAFRAS OIL, TERPINEOL, CITRONELLA OIL, DERRIS ROOT, CRUDE COD LIVER OIL

Those who are interested may ask for samples and quotations by writing to

MING HWA Pharmaceutical Corporation
P. O. Box 2-276, Taipeh, Taiwan, China
Cable address: "Minwa" Taipeh.

High Grade COSMETIC Powders

Tamms

● Powdered Talc ● Infusorial Earth
● English Kaolin ● Clay and Silica
● Precipitated Chalk

Send today for prices and samples.
Write us about your special needs.
Dept. RM-11

TAMMS INDUSTRIES, Inc., 228 N. LaSalle St., Chicago 1

MOULDS

for
LIPSTICKS
MASCARA
SUPPOSITORIES
STYPTIC PENCILS

and
DIES
for
ROUGE
COMPACT POWDER

Write for Catalog

A. CAVALLA, INC. 163 WEST 18TH STREET, NEW YORK, 11, N.Y.

SEYDEL

BENZOIC ACID U. S. P. and Tech.
BENZYL ALCOHOL F. F. C.
BENZYL BENZOATE U.S.P.
ETHYL AMINO BENZOATE U.S.P.
PARA AMINOBENZOIC ACID PURIFIED
SODIUM BENZOATE U.S.P.

Booklet describing "Seydel" fine chemicals available on request.

SEYDEL CHEMICAL COMPANY
Established 1904 **JERSEY CITY 2, N.J.** Cable Address "SIZOL"

falba
Reg. U. S. and Foreign Countries
ABSORBS 5 TIMES ITS WEIGHT OF WATER

THE ORIGINAL ABSORPTION BASE
Write for suggested formulae

Pfaltz & Bauer, Inc.
EMPIRE STATE BLDG., NEW YORK 1, N. Y.

BOOKS:

As a convenience to our subscribers we offer the books of all publishers—technical and non-technical—at the regular published price—postage paid anywhere.

Consult our BOOK DEPARTMENT — direct your inquiries to

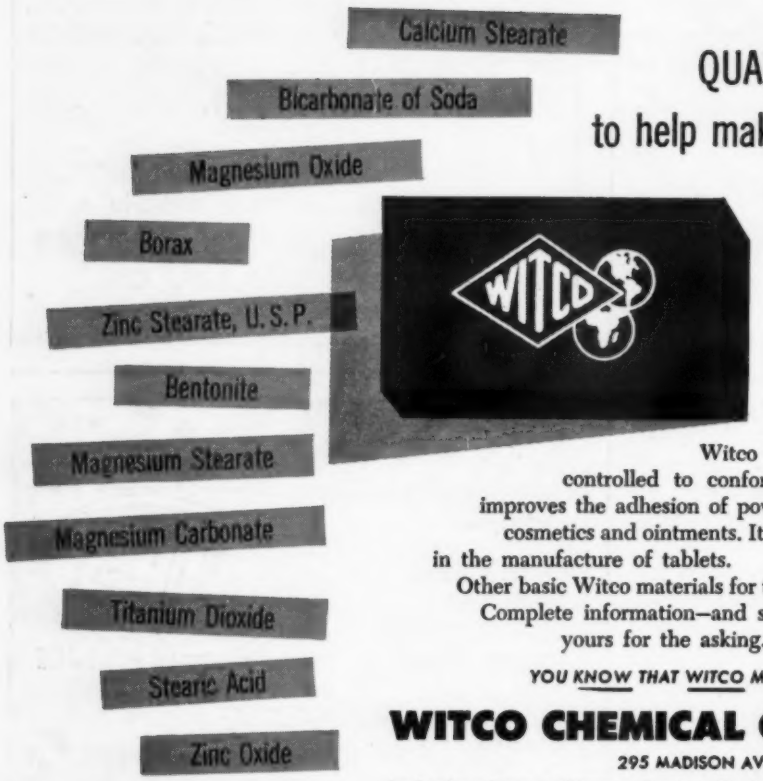
Book Department
Drug & Cosmetic Industry
101 West 31st St., New York 1, N. Y.
MEdallion 3-3177

ALL GRADES OF
REFINED GLYCERINE

U. S. P. B. P.
YELLOW DISTILLED
HIGH GRAVITY
DYNAMITE

REFINERIES LOCATED AT
★ Brooklyn, N. Y.
★ Jeffersonville, Ind.
★ Jersey City, N. J.
★ Berkeley, Calif.
★ Kansas City, Kans.

COLGATE-PALMOLIVE-PEET CO.
GLYCERINE DEPT. • 105 HUDSON STREET
JERSEY CITY 2, NEW JERSEY



QUALITY-MADE BY WITCO
to help make better drugs and cosmetics

—ZINC STEARATE, U. S. P.

Witco U.S.P. Zinc Stearate is quality-controlled to conform to U.S.P. requirements—improves the adhesion of powders—gives a mild antiseptic action in cosmetics and ointments. It is also effective as a mold lubricant in the manufacture of tablets.

Other basic Witco materials for the drug industry are listed on this page. Complete information—and samples of all Witco products are yours for the asking.

YOU KNOW THAT WITCO MAKES HIGHEST QUALITY PRODUCTS

WITCO CHEMICAL COMPANY MANUFACTURERS AND EXPORTERS

295 MADISON AVENUE, NEW YORK 17, N. Y.

Los Angeles • Boston • Chicago • Detroit • Cleveland • Akron • San Francisco • London and Manchester, England

ADVERTISING INDEX

Albek, Inc., Albert....710
Alsop Engineering Corp....682
American Alcolac Corp....720
American Cholesterol Products, Inc....702
Amino Products Corp....729
Anchor-Hock Glass Corp..659; Insert facing 652
Ansbacher Siegel Corp....Insert facing 697
Armour & Company....720
Armstrong Cork Company....Insert facing 681
Atlas Powder Co....621

Baker Chemical Co., J. T....Insert facing 665
Barr & Company, G....710
Beauty Fashion....Insert between 624-625
Benzol Products Company....722
Braun Company, W....662
Bridgeport Metal Goods Mfg. Co....662
Bromund Company, E. A....624
Bush Aromatics, Inc....723
Bush & Co., W. J....724
Book Department....628, 712

Calco Chemical Division....627
Calif. Fruit Growers Ex....Insert facing 701
Carbide & Carbon Chemicals Corp. Insert facing 689
Carr-Lowrey Glass Co....650
Cavalla, Inc., A....731
Chrystal & Co., Charles B....718
Coby Glass Products Co....685
Commercial Solvents Corp....613
Continental Can Company....654
Colgate-Palmolive-Peet Co....731
Crown Cork & Seal Co....660

Danco, Inc., Gerard J....690
de Laire Division of Dodge & Olcott, Inc....616
Devold Oil Co., Inc., Peder....716
Distillation Products, Inc....Insert facing 624
Dodge & Olcott, Inc....Insert facing 625
Dow Chemical Co....Insert bet. 624-625
Dreyer, Inc., P. R....Insert facing 688
du Pont de Nemours & Co., Inc., E. I....Insert facing 613
Durlin Corp....Insert facing 612

Economic Machinery Co....678
Elm Press, The....728
Emery Industries, Inc....Insert bet. 624-625
Eppenbach, Inc....684
Ertel Engineering Corp....684

Fairmount Chemical Co., Inc....729
Felton Chemical Co., Inc....Insert bet. 624-625
Filter Paper Company....685
Firmenich & Co., Inc....Insert facing 693
Florasynth Labs., Inc....Insert facing 700
French, Inc., Benj....702
Fritzsche Brothers, Inc....Insert bet. 704-705

Gane & Ingram, Inc....725
Gesell, Inc., R....712
Givaudan-Delawanna, Inc....Insert bet. 612-613
Glycerine Products Assn....Insert facing 692
Goldschmidt Chem. Corp....Insert bet. 620-621
Greeff & Co., R. W....718

Hazel-Atlas Glass Co....Insert facing 657
Heyden Chemical Corp....Insert facing 664
Hinde & Dauche Paper Co....Insert facing 617
Hoffmann-LaRoche, Inc....706
Hormann & Co., F. R....682
Huisking & Co., Inc., Chas. L....716

Industrial Chemical Sales....Cover 2
Inland Alkaloid Co....708
Ivers-Lee Company....658

Jelly & Co., Walter H....690

Kelton Cosmetics Co....721
Kessler Chemical Co....726
Klinker Mfg. Co....686
Kohnstamm & Co., H....Insert facing 620
Kolmar Laboratories....Insert facing 621

Leonhard Wax Co., Theodor....729
Leuders & Co., George....Insert bet. 628-629

Magnus, Mabee & Reynard, Inc....622
Mallinckrodt Chemical Wks....Insert facing 629
Mantrose Corp., Inc....708
Maryland Glass Corp....Insert facing 616
Mateer & Co., G. Diehl....682
Michel & Co., Inc., M....731
Ming Hwa Pharmaceutical Corp....731
National Aniline Division, Allied Chemical & Dye Corp....695
Naugatuck Aromatics....618
Neumann, Buslee & Wolfe, Inc....712
New Jersey Zinc Co....694
N. Y. Quinine & Chemical Works, Inc....612
Norda Essential Oil & Chemical Co., Inc. Insert bet. 668-669

Orbis Products Corp....Insert bet. 620-621
Owens-Illinois Glass Co....Insert facing 656

Parsons Imports, M. W....727
Penick & Co., S. B....625
Pennsylvania Glass Products Co., Inc....663
Pennsylvania Refining Co....620
Perl-Oussani Machine Mfg. Co....684
Perry Bros., Inc....725
Pfaltz & Bauer Co., Inc....731
Pfizer & Co., Inc., Chas....Cover 4
Polak & Schwarz, Inc....Insert facing 628
Polak's Frutal Works....698
Potdevin Machine Co....685
Progressive Machine Works....728
Pulverizing Machinery Company....683

Raleigh Hotel....715
Reheis Company, Inc....715
Richford Corp....719
Robinson Wagner Company....617
Roure-Dupont, Inc....666

Santonin Company of America, Inc....716
Scoville Manufacturing Co....657
Seeley & Co., Inc....699
Selas Corp. of America....683
Seydel Chemical Co....731
Sheffield Tube Corp....699
Standard Cap & Moulding Co., Inc. Insert facing 653
Standard Oil Co. (Indiana)....611
Standard Pharmacal Co....714
Sterwin Chemicals, Inc....729
Stokes Machine Co., F. J....Insert facing 680
Stokes & Smith Co....678
Strand Hotel....724
Strong Cobb & Co., Inc....Insert facing 696
Sturge Ltd., John & E....Insert bet. 624-625
Sun Tube Corporation....623
Swindell Bros., Inc....661
Synfleur Scientific Labs., Inc....Insert bet. 624-625
Syntomatic Corp....670

Tamms Industries, Inc....731
Terkelsen Machine Co....722
Thurston & Braidich....714
Tombarel Products Corp....626
Trade-Mark Record Book....690

Ungerer & Co., Inc....Cover 3
Union Carbide & Carbon Corp....Insert facing 689
U. S. Automatic Box Machy. Co....676
U. S. Bottlers Machinery Co....674

van-Ameringen-Haebler, Inc....614-615
Vanderbilt Co., R. T....687
Verley & Company, Albert....Insert bet. 672-673
Verona Chemical Co....Insert bet. 628-629
Vitamerican Oil Corporation....699

Welch, Home & Clark, Inc....717
Will & Baumer Candle Co....619
Witco Chemical Co....732
Wolf & Co., Jacques....728